

FAR EASTERN ECONOMIC REVIEW

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THE BASIC SITUATION IN THE FAR EAST

In a report entitled "Survey of Reconstruction Problems and Needs" compiled by the Economic Commission for Asia and the Far East, which was established by the United Nations Economic & Social Council, the basic conditions in China, Indochina, Malaya, Indonesia and other Far Eastern countries, with the important exception of highly industrialised Japan, were reviewed. These conditions have to be appreciated before one attempts to arrive at conclusions and formulas for solving the various problems of China and other Far Eastern nations. In a slightly condensed form the relative chapter of the Survey is reproduced.

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By comparison with the living conditions of the population in Western Europe the people in the Far East are existing in real poverty. The poverty of the countries and populations in the Far East is the basic fact and consideration.

Malnutrition, susceptibility to disease, high mortality and low expectation of life are very commonly among the concomitants of a low material standard, and illiteracy, ignorance and superstition are among its associated conditions.

The reason for the poverty which expresses itself in the above ways is, of course, low productivity per head of population and inefficient organization for increased production; the high proportion of population to resources, especially land is clear evidence of it. This is not simply a matter of the absolute volume of resources and absolute numbers of people, but rather of the volume of resources amenable to exploitation by the existing population by existing techniques and with existing economic and social organisation. This is to say that in some areas undeveloped resources exist which could be used to improve living standards provided that the results of develop-

ment were not absorbed by population increase. Poverty, however, presents a barrier to the development of new technique and methods, and not all areas within the region have any substantial volume of natural resources to be developed even with new techniques.

Since incomes are already low, the margin available for saving and therefore for investment in more or improved kinds of capital is very small. Where income distribution accentuated by inflationary conditions is uneven the wealthier groups may be able to save and invest; but it is still true that the ratio of new capital formation to needs is insufficient for the requirements of economic progress. This is the main justification for the argument that economic development in the Far East demands borrowing from abroad.

Saving which, in Europe goes into investment has naturally been hoarded as a reserve against the recurrent hazards of life.

Population Pressure.

The pressure of population on the land is indicated by the small size of the holdings, which results in low yields per head, and frequently even in low yields per acre. Low yields are not simply a matter of diminishing returns to human labour, but also the result of the use of primitive tools and implements, or poor quality seed and livestock, and insufficiency of fertiliser. These might be capable of improvement, but the extensive use of new methods and technique and of better implements, seed, fertiliser and livestock is itself hampered by the small size of the holdings and the poverty associated with it. Productive efficiency is also impaired by defects in tenure, the high cost of credit and the burden of debt, unsatisfactory marketing systems and facilities, losses in storage and other conditions, which affect either the ability or the incentive to produce.

Agriculture—the Crux of the Problem

The situation in agriculture is in an important sense the crux of the problem. Since production per head is low, the surplus available to feed those engaged in other occupations is also low, while purchasing power per head over industrial and other non-agricultural products is trivial. This explains both the national patterns of consumption and also the pattern of occupational distribution common to most Asiatic countries. Throughout the Far Eastern area the proportion of working population engaged in agriculture is high, varying from 60 percent to 80 percent. Industrialisation, with its ancillary marketing and finance is not greatly developed. Small scale handicrafts industries making little or no use of power driven machinery are naturally of greater relative significance than in Europe.

Except where a system of two or more crops provides continuity of work, the dependence of agriculture on the seasons means that much labour is idle or not fully utilised over appreciable periods. This may be used in handicrafts, which, however, frequently earn a return even lower than in farming.

Inadequate Transport.

The inadequacy of the transport systems is a reflection as well as a cause of low per capita productivity.

In 1935 China, with a population of some 400,000,000 had 52,000 registered motor vehicles. The United States, with about one-third the population had 30,615,000 and New Zealand, with a population of 1,600,000 had 209,463 motor vehicles registered. The two latter countries had the highest ratio of motor vehicles to population.

Even a first-class highway or railway cannot achieve its full potentialities as an instrument of economic development if the movement of goods in the surrounding country is clogged by the isolation of population groups as close as a few miles away. The isolation is often cultural as well as economic.

Banking and Public Finance.

In any economically advanced society, a developed banking system and money market is necessary to marshal savings for use as investment capital, and to provide short term credit for working capital and an elastic supply of the means of payment to meet the requirements of trade. These are to be found in Japan and the industrial and commercial cities of China, but are not characteristic over vast Far Eastern areas. Rural districts especially tend to be inadequately served and it is for this reason as well as because of high risks and the small volume of individual transactions that interest rates are very high.

An efficiently administered and resilient system of public finance is another necessary requirement of an economically advanced society. Because of the large proportion of population engaged in farming pursuits, the comparatively small cash income, the absence, except in large enterprises of refined systems of accounting, and the enormous practical difficulties in administering a system of taxation using individual money income as the source of revenue, income tax, death duties and similar direct taxes are relatively unimportant. Greater reliance has to be placed on land taxes, customs duties, transit dues and various forms of commodity tax. These tend to be regressive and it becomes difficult to increase tax revenue without discouraging effort or impeding the flow of goods.

Public expenditure in the Far East has always been inadequate to needs of development. The police functions of the state absorbed most of the revenue, leaving little for economic improvement or social saving.

Particularism and Ignorance.

Many social attitudes and relationships, interests, and skills or capacities, differ markedly from those in the West, and in some cases have considerable economic significance. Loyalties to the family, the clan or the small community are stronger than in the West. This tends towards local particularism which affects the whole problem of government, the nature and possibilities of central planning, and the type of economic organisation suited to the Far East, and through which governments might work. Religion, folk lore, or superstition also affect economic activities. But these are at least, as much the results as the causes, of low standards of living. In this lies the hope for the future.

Anyone familiar with the Far East is impressed with the manual dexterity of its people, and with the rapidity with which technical skills may be acquired. On the other hand, there are, as yet, few of the indigenous populations with the training, experience, or ability to exercise administrative, or executive function in industry or qualified as yet for senior positions in government administration.

The Problems of Restoring the

Productive Power and Living Standards in the Far East.

Because the normal material standards of living were so low, a given proportionate or absolute reduction is likely to have serious effects. It may mean, not so much the difference between comfort and austerity, as between subsistence and starvation. A reduction in the already low caloric intake not only means malnutrition, susceptibility to disease and a high mortality rate, but also impairs the energies which must be applied to reconstruction. In some areas it may be necessary to concentrate on food production even at the sacrifice of other activities. The urgency of the food problem is thus a partial explanation in some areas of the delay in restoring the production of other products which provide a source of foreign exchange. Even though the normal diet is ill-balanced and short in protective foods, the primary requirement is to restore caloric intake.

The greater degree of subsistence farming among the peasantry helps to protect the essentials of life for them during a period of economic disturbance; but in such a period short supply of other goods may discourage them from disposing of their surplus. This condition, together with inadequacies of transport, may mean considerable differences in food supplies even within the same country, so that national averages conceal important local variations. Such differences were important from time to time before the war. They are even more important at the present time both because of shortages in the supply of incentive goods and of the disruption of transport, as well as because the impact of the war on food production has differed from area to area. Inflation in China is also driving the peasants to revert to barter economy.

Such conditions when related to inter-dependence among countries within the region, serve to re-emphasize the importance of collaboration within the region to increase production and trade in rice and allocate short supplies.

Textiles are the main consumers' goods other than food. While they may be simple in character and readily processed, household reserves of these are seldom ample, or durable enough to enable replacement to be long deferred. The problem is intensified in some parts of the region by the continued growth of population. The expansion of aggregate production must catch up with population growth before an improvement towards the pre-war position is possible.

The small size of agricultural holdings and the simple character of the tools and equipment are important in determining the content of agricultural programmes. Where large areas have been abandoned, or extensive new areas

exist it may be possible, by the use of tractors, to make a marked and rapid contribution to the food supply by large scale programmes such as those of U.N.R.R.A. in China, but in general it is a matter of restoring the farm economy by such methods as the rapid provision of simple tools and equipment the supply of which has been reduced, providing seed, making good the loss of draught animals or in the allocation of fertilisers. But the mere fact that early success involves organised effort, at the same time opens up possibilities of effecting simple improvements in tools and equipment on a large scale, or of introducing new strains of seed or livestock.

The small margin above imperative needs, expressed, in normal times, by the tiny savings of great masses of the people, limits the scope for necessary re-establishment of capital out of local resources. On the other hand, the abundant labour supply provides a source of capital formation of certain kinds, at least where not much is needed by way of capital goods. It is, in fact, already being used on a substantial scale for river control, draining or irrigation for example in China and parts of Indonesia. There would appear to be further scope for capital formation requiring local labour, especially if advantage is taken of the seasonal rhythm in farm production. Nevertheless, the scope will be limited by the extent to which the flow of food and incentive goods can be augmented. Much reconstruction, however, will require supplies of structural material and other capital goods, and those are hardly amenable to the use of large numbers of unskilled manual workers. Moreover, the comparative immaturity of the banking system outside of large cities, makes it more difficult to marshal such savings as exist, for the creation of capital. Equally, the characteristics of public finance create difficulties in increasing public revenues to provide finance for the same purposes. These circumstances intensify the pressures towards inflation in order to find the means of payment for capital works.

Finally, the dependence on Western countries and Japan, for capital goods has meant that local organization to produce them is not fully equipped for the task, so that dependence on capital imports for reconstruction remains. This leads into the problem of obtaining supplies of foreign exchange either by building up exports or foreign borrowing.

The significance of economic dislocation in the countries which were the normal suppliers of capital goods, and of the urgent demands for such goods in other parts of the world must be considered. Furthermore, it is obvious that the ties which linked the colonial economy to the metropolitan economy and integrated the two together, have ceased to have the same binding significance as before the war on account of changed economic and political circumstances.

INTERNATIONAL TRADE FAIR FOR HONGKONG

Much interest has been evinced in local commercial and financial circles about the preparation for staging an international trade fair in the Colony. The steadily expanding local industry is particularly anxious to exhibit, within the scope of an international trade fair, its products. Government has been explicit about its intended active promotion of such an enterprise and would, provided that sufficient private interest is coming forward, also participate in the scheme by allotting the necessary land for the construction of buildings and the display of goods, as well as sharing, to a certain percentage, in the costs of organising the fair.

The advantages of an international trade exhibition in Hongkong for the whole Far East require no further elaboration; in our issue of last June 4, and in subsequent issues of this *Review*, the opportunities and rewards of an international trade fair in Hongkong were sufficiently outlined.

International trade fairs are also called international sample fairs or industries fairs. An international trade fair can be defined as a regularly recurring exhibition of merchandise samples, shown once or twice a year for periods lasting generally not longer than 2 weeks each, in specially erected buildings on the fair grounds. There is no specialization as to the goods displayed, no over-the-counter selling is allowed, and the scene of such a fair is commercial. Exhibitors are available to discuss sales with prospective buyers. Foreign exhibitors are admitted together with domestic participants.

International trade fairs were set up in most European trading centres mainly after World War I. They have established themselves firmly as an indispensable mechanism for the advancement of both domestic and world trade.

Special Fairs

Special or technical fairs take the form, for example, of building-material

In any realistic approach to reconstruction in the Far East and in considering the transition from colonial to national economy, recognition of this fact would seem to be important.

Of equal significance is the changed, or changing situation in respect of the supply of senior technical and administrative personnel in business and government. The effective planning and conduct of reconstruction programmes requires a running machine manned by experienced operators. The war itself damaged the machine and depleted the ranks of the operators. For the time being, the political changes which have occurred in many Far Eastern areas also have their bearing on the problem of planning and the administration of government and business.

shows, pharmaceutical exhibitions, gift shows, and the like. They have provided their value as a means of promoting domestic business in the specialty exhibited but so far have been, in the overwhelming number of cases, regional, or at the most national, instead of international in scope.

International trade fairs, which are held regularly once or twice a year in most European trade centers, have become an integral part of the "machinery" employed in those countries to promote international trade. They are being utilized today to a larger extent than before the war to stimulate commerce. Most of them have greatly expanded since the end of World War II, and, wherever possible, new fair buildings have been erected. Applications for exhibit space have become so numerous that at each event hundreds of prospective exhibitors have to be refused.

Service of Fair

The international trade fair brings the manufacturer into contact with a large number of customers and affords an unequalled opportunity for the buyer to examine and weigh the advantages and disadvantages of a series of products in which he is interested, in order that he may purchase those best fitted to his market and purpose. When a buyer visits an international trade fair, he can view on one spot the products of hundreds of factories. He may conclude transactions mutually profitable to himself and to the seller on a sound basis of personal acquaintance and previous discussions of products and prices. Such discussions, naturally, can cover possible alterations in the form, size, or packaging of the product so as to render it adaptable to his particular market. The fair affords opportunities for obtaining of foreign agencies and representations.

European Examples

Trade fairs of the European type are preferable to permanent merchandise exhibits.

The personal contact with the responsible heads of the exhibiting firms, considered one of the most important features of the international fairs, is lacking in year-around shows and this contact is much more likely to occur at fairs which, like the ones held in Europe, last no longer than a maximum of one month for each fair period.

The trade fair, as it developed in the years after World War I was devoted chiefly to the promotion of the exports of the countries in which it took place. Very soon however far-seeing trade-fair leaders began to realize that the fair could no longer limit itself to a one-sided consideration of export interests. As a result many

of the great European sample fairs began to invite the participation of foreign exhibitors. By so doing, they changed their fairs from a mechanism merely to stimulate exports to an institution for the promotion of both of the factors necessary to sound international trade.

The classical formula of the international trade fair is to exhibit goods according to commodity classifications rather than to group them into national buildings or units. It is argued that the international trade fair has a commercial scope and motivation and that an importer wanting to buy textiles, for example, is less interested in the origin of those textiles than in their comparative quality and price. This comparison can best be achieved by the method of grouping according to products, irrespective of the origin of the merchandise on display.

Most fairs held on the European Continent have, however, in addition to exhibits by commodity groups, unified industrial exhibits of various nations in which all or a representative part of the exhibiting nation's products are shown in special pavilions or units.

The international trade fair is a time-tested method which provides the apparatus for bringing the maximum number of buyers into contact with the largest number of sellers. That institution injects much added vigour into international trade, spurs manufacturers to produce more and better merchandise at lower costs and enables buyers to choose merchandise on the basis of real usefulness and consumer appeal. Its benefits are felt by consumers all over the world.

EXPANSION OF STATE BUSINESS IN CHINA

During the last few weeks Chinese and foreign merchants in Shanghai have become alarmed about the increasing State trading by Nanking corporations. Domestic purchases by Central Trust of China have been stepped up and shipments to foreign countries are now being effected to an increasing degree by the same organisation and other State owned corporations. The expansion of domestic purchases by official buying organisations is slowly putting out of business private firms many of which have been in the respective commodity markets for generations. The centralised buying of native produce of any description by Central Trust is now being organised under the auspices of Export-Import Board's Department for Export Development.

Hard pressed private business is finding less scope for earning its overhead expenses not to mention profits. Competition is getting ever tougher and

EXCHANGE & FINANCIAL MARKETS

STERLING DEVALUATION APPREHENSION.

The decision by the French Govt. to institute a so-called export franc and to permit a limited open exchange market, a development which amounts to the recognition of the depreciation of the intrinsic value of the franc, has resulted in revived apprehensions about the future position of sterling. Pessimists anticipated here, as elsewhere, the impending official devaluation of sterling during the beginning of last week, however, the determination of the British Govt. to continue with the present exchange rate has reassured commercial and financial circles all over the world and the arguments put forward in this connection by Sir Stafford Cripps have found general approval.

One cannot venture to predict the future of exchange rates in this strifetorn world but one may base one's attitude vis-a-vis sterling on certain facts which are: steady improvement of over-all economic position in the U.K., intensive cooperation among the member states of the British Commonwealth of Nations, expanding production and exports in the U.K., the ripening of U.S. assistance to Europe (Marshall plan), the Anglo-American unanimity concerning practically all problems in this age, the absolute integrity of the British Govt. and the logical and efficient managing of the affairs of state with which Sir Stafford is largely and deservedly credited.

therefore the element of discrimination in private commerce is assuming greater importance. Foreign merchants find it ever more difficult to retain their connections abroad. The tendency on the part of Chinese private enterprise, compelled as it is by the mounting trade restrictions of the Chinese Govt. and the increasing State trading, to take over foreign merchants' lines of business has become very clear. Pushed to the wall, Chinese private traders, while resenting the encroachments by their own government, believe to find some recompensation for business lost to government by attempting to circumvent foreign importers and exporters in China, selling abroad through their own branch offices or agents, and making purchases abroad through the same channels.

Some vernacular papers have already started with a sort of campaign: "Out with the foreign brokers"; in a narrowing private market, endangered by State monopolies at every turn, a good many shortsighted Chinese merchants (usually of the carpetbagger type of the post-war take-over years) have to struggle hard to keep going which, eventually, might be possible only if foreign merchants' business is "taken over."

After some uncertainty and a stimulated flurry during the earlier part of last week, the unofficial financial markets relaxed and returned to the pre-franc-devaluation position. Sterling has withstood the attacks of miscellaneous bears and emerged, once again, firm and solid. Confidence in the value of sterling has not been shaken. Those who made the mistake of selling sterling short had to take some losses.

The open funds sterling rate in New York and the various unofficial and black exchange markets in other parts of the world have returned to the previous level which remains about 20 to 25% lower than the official London/New York cross rate. It remains to be recorded that nervousness about the sterling position among Hongkong financial circles has been less pronounced than in many other financial centres which is altogether another proof of the astuteness of local business men and their unflinching confidence in the Home country's soundness.

GOLD TRANSACTIONS.

Activity here was stimulated by sterling devaluation rumours and by the steady demand and high prices reported from most Chinese markets. In spite of raids and confiscations and dire threats transactions in gold bars and coins remain very active in all larger cities in China. The approaching Lunar New Year (principal settlement day in China) has somewhat curtailed speculative buying but there is much genuine investing of idle funds in gold especially by the farmers at this time of the year.

The local market quoted \$345 as the highest price for last week which was not reached since last October (then the maximum price was \$357½). The lowest price last week was \$323½. The cross rates per ounce corresponded to U.S.\$ 54, highest, and U.S.\$ 50½, lowest, as a result of stronger quotations for T.T. New York. The cash turnover within the gold exchange amounted last week to 20,140 taels while the outside spot market additionally sold over 14,000 taels.

Fluctuations in Shanghai reached from C.N.\$ 8.6 million to 10.5 million per oz. Week's opening prices: C.N.\$ 9.6 to 10.5 million, and closing rates about 10 million. Swatow and Amoy, where an active turnover was reported, quoted on the average C.N.\$ 9 to 9.8 m. The Canton market was more or less in line with Hongkong; week's highest and lowest rates per tael were H.K.\$ 346 and 326 respectively.

Macao's gold imports were kept up and prices there continue about \$12 to 15 lower than here. Recent imports were effected at \$300 to 305, c.i.f.

Macao. Gold is sold and peddled everywhere in the Portuguese Colony which, superficially, appears as El Dorado of the Far East. Bullion, coins, all sorts of ornamental gold articles, very crudely made, are offered at every turn on the main road (the Avenida) and the native banking centre (Rua 5 de Outubro).

The Macao Govt. has now limited gold imports to one million ozs. for 1948, permitting 250,000 ozs. to be imported per every 3 months. The first quarterly quota has already been filled; most imports having arrived already and were shipped out of the Colony. The second quarterly quota of 250,000 ozs. is to be issued soon as gold dealers and bankers are insistent. The question of gold imports in transit has not been clarified; it appears that only gold imports into the Colony are limited to one million ozs. for the current year while transit shipments may be unlimited. This is a mere technicality of no consequence, however, as all imports (declared as such) are actually re-exported to the last ounce.

Recent exports from Macao included bullion for India, directed via Rangoon, a practice which has been successfully employed also last year. Some shipments (via Hongkong or Saigon and even Bangkok) have been effected to Singapore where the gold price has appreciated to Straits \$190 per tael; the landed (smuggled) cost price in major Malayan cities amounts to some \$8175 only so that sufficient incentive for the expansion of gold re-exports from Macao is also given with regard to Malaya.

SILVER BUSINESS.

Several European and Chinese exporters have been shipping larger quantities of silver (in ingots, bars, coins) to New York, which continues as the only buyer. Prices there remain unchanged. Business was done here at \$3.73 per tael, \$2.35 per silver dollar, and \$1.83 per 20 cents silver coin. Supply from local and Canton dealers is ample and stocks accumulating in Canton assure of further adequate deliveries.

BANK NOTE MARKETS.

A temporary weakness in the Piastre rate was recorded when the news about the franc devaluation was made public and hoarders started to sell without finding, at good prices, takers. \$10¼ for 100 Piastrs was the lowest price for the week during which 5.4 million piastrs were sold on the spot market.—Nica guilders ruled weak and Siamese baht were well maintained although the volume of business done in these two popular counters was much reduced.—Pound notes were at first under-selling pressure by a few overbought speculators but a native bank commenced buying and stabilised the price around its usual level (15 to 20% below the £/H.K.\$ parity).

US\$ BUSINESS.

The sterling devaluation scare boosted unofficial U.S.\$ rates with notes being the favourite of "rabbits". Some speculative buying of funds in New York was noticed last week which brought up the rate. Highest and lowest prices last week: notes \$522-508; drafts \$516-505; T.T. \$530-516. Cross rate fluctuated between U.S.\$ 3.02 and 3.10; much business was done at the cross rate of U.S.\$ 3.07.

CHINESE MONEY MARKETS.

Local transactions in notes and remittances reached almost record levels. The settlement of innumerable accounts of Chinese firms before Feb. 10 (Chinese New Year) caused most of the flurry. Rates were steady as is always the case before Chinese New Year when payment of outstanding accounts cause a strain on C.N.\$ resources of every commercial firm.

The general expectation for a further depreciation of C.N.\$ as after mid-February has gained much ground. Nanking's military reverses and the long-delayed U.S. assistance make "the heart sick"; there is bound to be a sizeable increase in the C.N.\$ issue as government salaries, and bonus payments by Chinese authorities before Feb. 10, can only be met by resorting to the printing presses.

Highest and lowest note prices were: (per one million C.N.\$) spot H.K.\$ 36½-34¼; forward \$33¼-30½. Shanghai remittances were in strong demand which caused the rate to firm up and even exceeded the Canton T.T. price.

Shanghai's unofficial U.S.\$ exchange quoted C.N.\$ 170,000, lowest, and C.N.\$ 195,000, highest, per U.S.\$1; Hong-kong notes quoted between C.N.\$ 33 to 35,000. Canton unofficial prices for H.K.\$, spot notes, recorded C.N.\$ 28,700 as lowest, and 31,500 as the highest price. Swatow usually sells H.K.\$ somewhat cheaper than Canton (last week average 26,000 to 28,000).

The official market rate of Central Bank of China for T.T. New York was again raised last week (January 27), for the second time in the new year, to C.N.\$ 119,500 (i.e. C.N.\$ 6,000 advance in the cover rate over the Jan. 12th rate). T.T. London, however, remained unchanged thus reducing the

cross rate from previously U.S.\$ 3.30 to U.S.\$ 3.18 as at present.

Money in Shanghai was less tight, the rate of interest dropped to 24% (the high for Jan. was 30%). Preparations for the annual settlement of accounts overshadowed all business activity. Speculators and overbought merchants had to liquidate their positions which brought a good many prices (stocks and shares, certain commodities) down from previous week's levels. The flood of dishonoured cheques slightly receded, but still over CN\$440 billion in cheques were returned for the week ending Jan. 24 as no funds were provided by drawers. This criminal feature of Shanghai's money market appears ineradicable.

Progress of inflation: within one year, from Jan. 1947 to end of Jan. 1948 the official Chinese exchange rate for US\$ increased by 3,000%; prices of ten leading Shanghai shares increased on the average over 7,000% during the same period.

NEW TAIWAN DOLLAR EXCHANGE RATE.

With effect from Jan. 27 a new exchange rate for Taiwan dollar has been fixed by Bank of Taiwan in accordance with instructions from Central Bank of China. The new rate is CN\$100 per Taiwan dollar one.

At the beginning of 1947, the exchange rate was CN\$35 per Taiwan dollar. There were several official appreciations of the Taiwan dollar in terms of CN\$ during 1947. The unofficial market values Taiwan dollar considerably higher than CN\$100. The very low official rate is regarded with displeasure by Taiwanese whose rich Island has been thoroughly exploited by Chinese from the mainland.

BUSINESS OF NATIVE BANKS.

Of all the financial and commercial enterprises in the Colony no group has been more successful during the last year than the native bankers. Most of them made enormous profits which mounted to many even dozens of times their paid-up capital. A native banker told the *Far Eastern Economic Review*, with a display of much modesty, that "native banking business here during last year was really satisfactory and proved to be very remunerative at least for the majority of the 200 native banks, goldsmiths, silversmiths and exchange shops which are registered as members of the Gold

& Silver Exchange Society. With the exception of some 20 banks and firms every member of the Society showed returns of more than average profits at the end of last year."

(The financial year for native banks and other members of the Society closes as with other Chinese business firms here at the end of the Lunar New Year which is due to fall on February 9).

"Profits made by native banks and goldsmiths ranged from \$100,000 to \$6,000,000 each, while losses sustained in speculation by the 20 odd members for the same period varied between \$100,000 and \$500,000. Every one of the 20 financial firms who suffered losses have traded on the market against the trend, having swum against the tide. There never was any lack of business, on the contrary clients were and remain a plenty and speculators never appear to suffer from tight money. That speculative losses were so negligible is due to the excellent results achieved in many other ventures during the year."

There are some bankers who pretend that as they have sustained heavy losses they might close down their business when the settlement day is over; others again state that, since they are over-staffed, their staff could be reduced. A few banking firms make efforts to increase their capital by absorbing the funds of new friends and relatives.

The very large number of Chinese clerks and foks employed by native banks etc. are anticipating with gusto the emptying of the bursting bonus payment bags. Every one of them is assured of at least one month's extra pay at the end of the current Lunar Year, while those working in the big native financial concerns expect to receive a bonus exceeding even one year's full pay.

The most successful firm in 1947 among the local native banks was the Hang Seng Bank whose profits for the year totalled over \$6,000,000. The bank reaped reportedly half of its profits from local transactions and the other half through operations in the United States. (The bank was listed as one of the larger operators on the U.S. grain markets). The bank's employees from the manager down to the watchmen will receive each an extraordinary bonus; its manager is expected to obtain \$100,000, clerks from \$10,000 to \$50,000, and watchmen are to be rewarded with \$6,000 per rifle.

HONGKONG UNOFFICIAL EXCHANGE RATES (IN HK\$)

		CNS (per one million)																	
		Gold per Tael		Spot		Forward		S'hai Canton		Notes		US\$ (per 100)		Guilder		Baht		Pound	
Jan.	High	Low	High	Low	High	Low	T.T.	T.T.	Notes	Draft	T.T.	I.C\$	Guilder	Baht	Note				
26	338	323½	35½	34¼	32	30½	32½	32½	510	510	527	11½	32¼	26	12.6				
27	345	333	36½	35	31½	31½	33¼	34	520	515	530	11½	33	26	12.6				
28	342	331½	35½	35	32½	32½	33½	34	513	506	520	10½	30½	26½	12½				
29	339½	327½	36	35½	33	32	34	33½	509	510	518	11	31	26½	13				
30	340	331¼	35½	35¼	32½	32¼	33½	33½	513	509	518	10½	31½	26½	12.9				
31	335	328	35½	35½	33¼	32½	36½	34	513	511	518	11	33½	26½	12.8				

HIGHEST AND LOWEST UNOFFICIAL QUOTATIONS IN HONGKONG

	(in HK\$ per tael of gold; and per US\$ 100)					
	January 1948	December 1947	January 1948	December 1947	Year 1947	Year 1947
	Highest	Lowest	Highest	Lowest	Highest	Lowest
Gold	345	295½	320	271¾	405	254
(Cross rate in US\$)	54	49	52¾	45½	57½	42)
U.S. notes	522	485	513	484	581	440
U.S. drafts	516	490	515	488	575	454
TT New York	530	500	526	498	593	482
(Cross rate in US\$ per £)	3.02	3.20	3.04	3.21	2.70	3.32)

Gold Transactions at the local gold exchange market for the month of January totalled 76,990 taels (spot) and about 74,000 taels on the outside market (for delivery). December 1947 recorded larger turnovers:—97,850 taels on the market and 116,000 taels outside the exchange. The amount involved in gold spot transactions in January exceeded HK\$48 million. Forward gold sales (clearing of positions only) were estimated for January around 3½ million taels.

CHINA'S BALANCE OF INTERNATIONAL PAYMENTS.

In the absence of any information from Nanking where financial affairs are treated as top secrets one is left to more or less educated guesses concerning the balance of China's foreign payments. It is generally held that the foreign exchange resources of China will be fully exhausted during this year irrespective of further tightening of exchange and trade controls.

In a recent survey made by the United Nations Economic & Social Council (Economic Commission for Asia and the Far East) some light is shed on the adverse state of China's balance of international payments. Even this Economic Commission could, however, not extract official information from Nanking; the iron curtain of Nanking remains unmoved, United Nations or no United Nations.

From the figures compiled by the Economic Commission (ECAFE) the balance of China's foreign payments for 1946 appears as follows:—

Merchandise exports US\$219 million; Expenditure by foreign diplomatic, consular, military missions, U.S. Forces, foreign missionaries, travellers etc. US\$119 million; Overseas Chinese remittances US\$100 million; making a total of US\$438 million.

Merchandise imports, including the estimated value of smuggled imports, totalled US\$600 million or over 380 million in excess of recorded exports.

During 1946 there were large relief supplies and other gifts sent to China chiefly by the U.S. and to a smaller degree by Canada and Australia; then there were donated by the U.S. enormous supplies of war surpluses, lend lease goods; furthermore, considerable loans were granted to China (ECAFE lists them for 1946 with US\$148 m.).

The balance of foreign payments of China in 1947 should look like this, according to ECAFE:—

Merchandise imports US\$560 m.; special imports by the Nanking Govt. (probably including a good deal of military equipment and ammunition which were required in addition to the estimated at US\$100 m.; Railway equip-largesse of the U.S. Govt. and Forces) ment and supplies US\$100 m.

Merchandise exports in 1947 were estimated at US\$235 m.; foreign consular and military expenditures US\$99 m. (Overseas Chinese remittances were not included, probably regarded as too small an item).

The 1947 excess of imports over exports is US\$225 (according to ECAFE).

No other figures are submitted as ECAFE could not lift even an edge of Nanking's iron curtain.

There continued in 1947 the stream of Unrra supplies and other gifts, mainly from the U.S., helped to reduce the import requirements of China to a very large extent. Without these supplies the situation in China may have become so explosive that political power would have disintegrated.

There are several items which have to be considered when calculating the adverse balance of China's foreign payments such as:—Outward remittances by business men (profits, liquidation of establishments etc.);—Chinese and foreign migrant capital;—Movement of funds abroad for investments (as to Siam, Malaya etc.);—Chinese Govt. expenditure for maintenance of their very large number of diplomatic and consular officials, expansion of their propaganda activities, granting of placatory awards (like in the case of Christian General Feng Yu hsiang).

CHARTERED BANK.

The Chartered Bank of India, Australia & China has established and opened for business another branch office in the Dominion of Pakistan, in the city of Chittagong. The Chartered Bank's office in the Dominion's capital of Karachi is the head office in Pakistan.

HONGKONG STOCK & SHARE MARKET

The current bullish trend continued with increased momentum during the week, Jan. 26 to Jan. 30. The best indication of its extent is, perhaps, in the volume of transactions, which were more widespread, and totalled 198,429 shares of a value of \$6,100,000, the best in several months past.

At the middle of the week traders were inclined towards caution and hesitancy, on the Chancellor of the Exchequer's speech on the effect of the Franc devaluation on sterling. But sentiment improved again on the last two days of trading. This is ascribed to two main causes, (1)—Fears of eventual devaluation of Sterling, and (2)—Diversity of rumours of the profits of most companies for account of 1947.

Though the feeling regarding devaluation of sterling was somewhat mixed, fears of the French cut in the Franc, which has been approved by the Assembly, may make the British pound untenable at its present rate. Despite official denials it is believed that rumours in this respect will revive periodically, because it is considered that the pound sterling is being maintained at an uneconomic level.

Added impetus was given by the dividend declarations of the Star Ferry Co., A.S. Watson & Co., and the H.K. & S'hai Hotels for account of 1947. These, too, are proving that a good deal of the rumours one hears in the market are deserving of more credence, and will undoubtedly persist until Directors of Companies recognise their responsibilities to shareholders and publish quarterly accounts of earnings. Shareholders are entitled to this measure of protection. The Boards of local companies will be well advised to adopt some such practice instead of maintaining reticence for twelve months or more at a stretch.

The Star Ferry Co. announce that its Board will recommend at the forthcoming annual meeting that the net profit for 1947 be appropriated as follows: Payment of a dividend of \$8 per share (less tax), \$592,000; transfer to reconstruction Reserve \$750,000 and carry forward \$49,000. This compares with a dividend of \$4 for 1946.

A.S. Watson & Co. disclose \$1,685,437 available for appropriation, and after various allocations recommend a dividend and bonus of \$4 & \$2 less tax respectively, which compares favourably with a total payment of \$2.50 for 1946.

The Hongkong & Shanghai Hotel Co. have announced that its Board will recommend at the Annual Meeting to be held on March 3 the payment of a bonus of \$2 and a dividend of \$1 per share net. (For 1946 dividend payment \$1).

The Felix Ellis' price index showed a net loss of .02 compared to the close of the previous week. But for the fact that a stock on the averages was quoted ex rights

the index would actually have shown a gain. Day-by-day his averages were: Jan. 26, 147.59; Jan. 27, 148.60; Jan. 28, 148.11; Jan. 29, 145.87; Jan. 30, 146.94. The High and Low for 1947 were 155.82 and 123.88 respectively. The low for 1928 was 145.26 on Jan. 14, and the High 148.60 on Jan. 27.

BANK: H.K. BANKS came to business at 2045, 2055, 2060, 2085, 2065, and 2070.

INSURANCES: Transactions in this section were: CANTONS @ 400, 395, 385, & 387½; UNIONS @ 790, 792½, 785, 797, 792½ 787½ & 790; H.K. FIRE @ 310.

SHIPPING: WATERBOATS old had transactions at 48 & 49 while the new had transactions @ 44 & 44½.

DOCKS & GODOWNS: Business in this section were as follows: WHARFS old 154 (Closing 165 buyers), H.K. DOCKS @ 35½, 35½, 36½, 37, 36¾, 36½, 36, 35½, 35; PROVIDENTS @ 24, 24½, 25, 24½, 24½, 24, 24½, 24½; S'HAi DOCKS @ 26, 26½, 26½, 26½, 27, 26¾, 26½, 26½.

HOTELS & LANDS: HOTELS had business as follows: TRAMS @ 24½, 24½, 24½. Other business in this section were: H.K. LANDS old @ 84, 85, 86, 86½, 85½, 85, 86; new @ 81, 83, 84; S'HAi LANDS 6, 5½, 5.60; and HUMPHREYS @ 30.

UTILITIES: Business in this section were as follows: TRAMS @ 24½, 24½, 24½, 25, 25½, 25, 24¾, 24½, 24.40, 24¾. 25; STAR FERRY 130 & 140; YAUMATI FERRY @ 31; CHINA LIGHT old @ 20½, 20½, 20¾, 21, 21½, 21½, 21½, 21, 20¾, 21¼, 21½, 21.35; new @ 16, 17¼, 16¾, 15¾, 16¼; ELECTRIC old @ 54, 55, 55½, 54¾, 54¼, 54½, 54, 54½, 54¾, 55½, 55½, 56, and new @ 51, 51¼, 51½, 52¾, 52½, 52, 51¾, 52, 52½, 53½, 53, 53½, 54; TELEPHONES old @ 40 and new @ 38 & 37½.

MINING: Business was recorded in RAUBS @ 5½ and H.K. MINES .03.

INDUSTRIALS: The following business was reported in this section: CEMENTS old @ 34½, 34¾, 35, 35½, 36, 37, 36½, 36, 36¼, 36, 35½, 36, 36½, 37, and new @ 33.32, 33; ROPES @ 21; DAIRY FARM X Rt. @ 61½, 63, 65, 64, 64½, 65, 65½, 66, and RIGHTS @ 39½, 40, 41, 40½, 40, 41, 42; WATSON cum all @ 76½, 77, 76¾, X Rts. @ 53, 57, 58, 55, 56 and rights @ 24, 24½, 25½, 26, 26½, 27, 29, 28.

STORES: Business was done in LANE CRAWFORD @ 54½, & 54¾ and in KWONG SANG HONG @ 200.

MISCELLANEOUS: CHINA ENTERTAINMENT had a sale @ 36 while old CONSTRUCTION had business @ 6. H.K. Govt. 4% had a sale @ 104½.

COTTONS: EWOS had sales at 17, 17½, 17½, 17½, 17¾, 17¾ & 17¾.

RUBBERS: Business was reported as follows: Anglo-Java @ 4½, Repah @ .70, Rubber Trust @ 4.20 & Tebong @ .70.

HONGKONG STOCK EXCHANGE TRANSACTIONS

The turnover on the Stock Exchange for the week ending January 30 amounted to \$6,190,715. The turnover for the preceding three weeks in January was respectively \$3,058,516; \$2,026,846; and \$2,261,357. The total sales of shares during January amounted to \$13,537,434 against a December turnover of \$8,140,989.

	No. of Stock	Highest Price	Lowest Price	No. of Shares Sold
H.K. Bank ..	2,085	2,045		284
Union Insur. ..	792½	785		405
Canton Insur. ..	400	385		140
H.K. Fire ..	310	310		20
Wharves ..	154	154		66
Docks. . .	37	35½		6,320
Providents ..	25	24		10,900
Waterboats, N. .	44½	44		940
" " " " " " " "	O. 47	47		340
S'hai Docks ..	26¾	26		7,671
Hotels ..	25¼	24¼		17,000
S'hai Lands ..	6	5½		16,000
H.K. Lands, O. .	86½	84		3,100
" " " " " " " "	N. 84	81		1,370
Humphreys ..	30	30		500
Trams ..	25¼	24.40		15,400
Star Ferry ..	140	130		464
Yaumati Ferry ..	31	31		1,000
Electrics ..	56	54		7,516
" " " " " " " "	Rts. 54	51		6,878
Lights, O. ..	21¾	20¼		24,624
" " " " " " " "	N. 17¼	16		2,460
Telephone, O. .	40	40		1,631
" " " " " " " "	N. 38	37½		700
Cements, O. ..	37	34½		14,000
" " " " " " " "	N. 33¾	32		4,125
Ropes ..	21	21		3,050
Dairy Farm ..	66	61½		3,600
" " " " " " " "	Rts. 42	40		3,496
Watsons, O. ..	77	76¾		300
" " " " " " " "	X.R. 58	55		3,000
" " " " " " " "	Rts. 29	26		5,000
Ewos ..	17¾	17½		7,000

Other sales included last week:—\$11,000 of H.K. Govt. 4% loan at \$104½; 500 Lane Crawford shares at \$54½; 500 Constructions at \$6; 25,000 H.K. Mines at \$0.03; 20 Kwong Sang Hong at \$200; 100 China Entertainments.

INCREASE OF TAXATION IN THE PHILIPPINES INTRODUCTION OF IMPORT QUOTAS

The Philippine national economic council has submitted to the Government six tax measures intended to increase the national revenues; furthermore a seventh proposal to create an import board with power to fix quotas of articles to be imported. This measure is designed to conserve the country's foreign exchange by restricting imports of non-essential or luxury consumer goods.

The banking, credit and commerce committee of the economic council has discussed these proposals which have aroused deep controversy in Manila.

The report of the Committee of H.K. Stock Exchange reads as follows:—"The heavy investments came into some prominence this week on the Hongkong Stock Exchange, and buyers have been willing to increase their bids to obtain scrip. Business during the week was fairly brisk. The announcements of the dividends for Star Ferries of \$8 and Watsons \$6 have stimulated the market, particularly for Dairy Farms and Watsons themselves, both of which are in good demand. Comparisons of prices of the active stocks at the close show eleven at the same level as at the week's opening whilst the rest have improved their position and none has moved downward. Market closed steady."

Dividends.

A. S. Watson & Co., Ltd. The net profit for the year ended October 31, 1947, amounted to \$1,583,990 which, with the sum carried forward from last Account of \$101,447, makes available for appropriation \$1,685,437. After various allocations in respect of war losses, taxation, Chinese Superannuation Account and Staff Provident Fund, dividend and bonus to shareholders are as follows:—

Dividend of \$4 per share for the year, less tax, (\$3.60 net), absorbing, \$540,000; bonus of \$2 per share for the year, less tax, (\$1.80 net), absorbing, \$270,000; and carry forward to next Account, \$340,812.

The "Star" Ferry Company, Ltd. The balance of Profit and Loss Account for the year ended December 31, 1947, is \$1,372,000 which, with \$19,000 brought forward from 1946 makes a total of \$1,391,000 available for distribution.

Appropriations:—Dividend of \$8 per share less tax (\$7.40 net), \$592,000; transfer to Reconstruction Reserve, \$750,000; Carry forward \$49,000.

Hongkong & Shanghai Hotels Ltd. Dividend of \$1 and bonus of \$2 per share, both free of tax, in respect of year ended Dec. 31, 1947. Annual meeting: March 8.

The tax proposals follow the recommendations of the American-Philippine joint finance commission, although the tax rate increases recommended by that commission will be pared down as it is believed some of the increases proposed are too abrupt, considering that the country is still in the stage of rehabilitation and the programme of industrialization is just being launched.

The specific tax measures for which draft bills are being prepared for submission to congress for approval are:

(1) Corporate income taxes are to be increased from the present 12 percent to 15 percent. The flat rate on non-resident alien individuals without business or office in the Philippines and the rates of withholding taxes will also be increased from 12 percent to 15 percent as the provisions of law involved are complementary to each other. The joint finance commission recommended an increase of corporate income taxes to 18 percent but the economic council believes such an increase would be too drastic an upward revision at this time.

(2) Specific taxes on liquor and cigarettes. It is proposed to increase rates for fermented liquor from the present 15 centavos to 25 centavos per liter; for distilled spirits from Pesos 1.70 to 3.50, per proof; for sparkling wines from 2.00 to 4.00 per liter; still wines (14 percent or less) from 25 centavos to 50 centavos per liter; and still wines of more than 14 percent from 50 centavos to 1.00.

On cigarettes, it is proposed to maintain the present tax of 2 Pesos on cigarettes costing Pesos 3 or less per M; but increases are provided for those costing more than P3 but not more than P4.50 per M, from P4 to P5. These increased rates are not as high as those recommended by the joint finance commission.

(3) Sales tax increases are proposed on luxury items from 20 percent to 30 percent and on semi-luxuries from 10 percent to 20 percent. No increase will be proposed with respect to the present rate of 5 percent on ordinary articles. The joint finance commission recommended an upward revision of sales taxes to 50 percent on luxuries and 30 percent on semi-luxuries.

(4) Advance collection of sales tax on landed cost of imported articles will be proposed to promote efficiency and to prevent tax evasion. Under this proposal the importer will be made to pay in advance a part of the tax before the goods are released from customs custody. The tax is to be computed on the basis of landed cost or c.i.f. value of the goods at the time of their importation, but allowed as a deduction or credit against the total amount of percentage tax due when the goods are sold.

In order to encourage exports, it will be proposed that imported articles to be later consigned abroad or to be used in the manufacture of products for consignment abroad be exempt from compensating tax.

(5) Estate, inheritance, and gift taxes. In line with the recommendations of the joint finance commission it will be proposed to increase rates of estate and inheritance taxes applicable to upper brackets. Rates of gift taxes (donor's and donee's) are proposed to be increased to make them equal to rates of estate and inheritance taxes.

COMMERCIAL MARKET REPORTS

HONGKONG EXPORTS OF PRODUCE AND MANUFACTURED GOODS

During January exports from here of China native produce, other Far Eastern countries' produce, manufactured goods of various origin, with an increasing percentage of Hongkong's industries, remained very active. Shipments were made to all countries but exports to Europe, Australia and America ranked highest; shipments to various Far Eastern countries and to India continued strong.

The radius of Hongkong's exports is steadily expanding. Local merchants are investigating every possible source of supply of native produce from all markets in the geographic vicinity of the Colony and they have been successful in exploring such sources with the effect of being now able to offer larger varieties of typically Far Eastern commodities to buyers abroad, and they also are increasingly able to supply steady and larger quantities.

Ocean communications are very easy for practically every port in the world although some export cargoes are delayed in transshipment for certain countries (e.g. Western Africa, some Latin American countries). The principal trading partner of Hongkong remains China although her role is steadily diminishing. Imports from China are not arriving as would be desirable from a point of view of China's export interests due to the unreasonable trade restrictions prevailing in that country. The volume of our re-exports (of goods originating in China) is thus adversely affected, however, other sources of native produce supply have made up amply for the trade debacle in China. Hongkong's exports to China have been declining over a period of many months and it appears probable that the unfavourable state of economic affairs in that country will further depress commercial exchange between the world at large and China.

Hongkong's January Exports to the United States.

Among the more important shipments from here to the U.S. for the month of January were the following commodities:—

Native Produce:—bristles; feathers (duck, goose); human hair; animal hides and skins; tung oil; cassia lignea and oil; teased oil; agar-agar; sesame seed oil; coconut oil; tea; water chestnuts; shellac; canes, tinglee canes; hides glue; hog cas-

ings; caladium; bamboo peel, core, strip; bamboo shoots, splits — Metals and Minerals:—Tin; Antimony crude; Scheelite; Silver (in bars, coins).

Exports to India, Africa etc.

Shipments to India in January were mostly:—cassia; tung oil; locally made torch lights, vacuum flasks, flashlights, lanterns, umbrella parts, galvanised wire, wire nail, electric goods, metal goods, cotton piece goods, pencils; brandy, etc.

Exports to Burma included crockery and chinaware; hand bags, flashlights, photo frames etc.

Shipments to Africa, North, East and the Union of South Africa were considerable. Local factories find increasing outlet for their production in African markets, especially for cotton piece goods, vacuum flasks, torchlights, buttons, metal goods, needles, straw mats, earthenware. But native produce such as tobacco leaves, seagrass, rattan peel, cassia etc. are in steady and good demand.

Manufactured goods (to a considerable degree made in Hongkong, especially the following):—Preserved ginger; rubber canvas shoes; flashlights (bulbs, torches); metal goods; watch bracelets; various rattan and bamboo ware; preserved fruits; embroidery and lace; Chinese medicines; wooden ware and carvings; etc.—Other exports of manufactured goods mostly of Chinese origin were:—earthen and china-ware; bamboo articles like porch sheds, baskets, flower sticks, shades, blinds; straw-hat borders, straw matting; hat bodies; rattan furniture, baskets, webbings; cane webbings; seagrass mats; tea mats; needles (sewing); linen goods, napery, embroidery, cotton gloves, cotton and linen drawn work, handkerchiefs, silk and cotton piece goods; Chinese medicines; camphor and ivory wood chests; mosquito destroyers; sauces (soy, oyster); blackwood furniture; fire-crackers (from Macao largely).

Hongkong's January Exports to European Countries.

Among the leading export articles to the United Kingdom were:—Preserved ginger; camphorwood furniture; bamboo ware; buttons; rubber canvas shoes (the aforementioned commodities mainly of Hongkong factories);—feathers; waste silk; agar-agar; camphor oil, slabs, powder; bristles; tea; tinglee canes; canes; aniseed oil; tung oil; hides; rattan core; seagrass; mats;—Cantharides; peppermint oil; galangal roots; human hair; w/raun oil; copper scrap and brass scrap.

Exports to the Netherlands included:—cassia oil and lignea; coconut oil; rapeseed oil; matting; feathers; tin; hides.

(6) Increases ranging from 70 to 100 per cent will be proposed in rates of forestry charges on different kinds and groups of timber cut from public forests. The economic council believes that the increases proposed can well be born by the lumber industry.

Exports to Belgium included:—seagrass; tin; antimony crude; copper scrap; tonkin and tsinglee canes; star anis; bristles; tung oil; feathers; chinaware and earthen ware; hides; mats; peppermint oil; camphor wood furniture; Hongkong made rubber shoes.

Exports to the Scandinavian countries included:—feathers; tsinglee canes; tung oil; cassia; camphor powder; wolfram ore; tea; hides.

Exports to France were mainly:—Cantharides; camphor; gallnuts; rhubarb; tsinglee canes; little vegetable oils.

Exports to Italy included:—hides; coconut oil. Export to Turkey included:—hides; torchlights; needles; lanterns; rattan peel.

Hongkong's Exports to Australia.

Native produce exports included:—feathers; tung oil; peppermint oil; aniseed oil; camphor tablets and powder; rapeseed oil; seagrass; cassia oil; tea; tsinglee canes; rattan core.

Manufactured goods, to a large degree made in Hongkong, included:—rayon and cotton piece goods, shirts, vests, handkerchiefs, white shirting, table cloth, napery etc.; human hair nets; buttons; table lamps; torch cases; firecrackers; soap; seagrass mats; vacuum flasks; bamboo ware; camphor wood chests; rubber shoes; matches; linen embroidery and goods.

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CHINESE MERCHANTS' CONTINUED PROTESTS AND PETITIONS

The two Chinese principal commercial organisations in the Colony have thus far submitted petitions to the Executive Yuan in Nanking, the Kwangtung Provincial Government and the South China Regional Committee of the Export-Import Board, asking for a general revision of the existing unreasonable controls and restrictions in China (compare the 2 preceding issues, p. 57 and p. 88).

The most influential native dealers' body—the Nam Pak Hong—after several meetings among its members forwarded on Jan. 27 its petition to the respective government bureaux concerned with trade restrictions in China. In the petition the Guild asked for an immediate relaxation of the whole control system, an improvement (adjustment) in the foreign currency surrender policy and the permission to grant Hongkong merchants who also have firms in Kwangtung and Fukien the registration as importers entitled to obtain import quota allocations as provided by the Export-Import Board.

The Guild pointed out that before the introduction of trade controls in China last June the Colony's exports to South China amounted to \$22,000,-

000 every month on the average and that because of the illogical restrictions, the monthly volume of trade from here to S. China has gradually and steadily fallen to the present average of little over \$4,000,000, or only one-fifths of the volume of trade some 6 months ago.

The petition explains that the Guild's member hongks are dealers principally in essential materials urgently required by the Chinese people and factories. These goods include hardwares, medicines, industrial raw materials and foodstuffs.

The South China area as mapped out by the Board in Canton includes the four provinces of Kwangtung, Kwangsi, Kweichow and Fukien. As these four provinces have no direct port of trading with abroad, the petition emphasised, they have been depending for their supplies chiefly on Hongkong. Therefore, Hongkong merchants should be given special consideration by the all-powerful Board and be allocated import quotas.

Under the policy of the All-China Board, Shanghai, 74 percent of the total import quotas of the country are shared out to Shanghai, South China receiving only 19 percent and North China 7 percent. This proportion is very unrealistic and the Guild strongly appealed to the government to increase import quotas for South China merchants.

The Kowloon Chinese Chamber of Commerce after further meetings eventually decided on the wording of their requests and suggestions and forwarded to Nanking and Canton on Jan. 29 a voluminous document. The whole text of the Chamber's petition remains in principle as reported by this Review in its last issue.

Meanwhile, the Hongkong Chinese Chamber of Commerce is scheduled to convene another meeting of the special committee of 18 members early this week to draft its petition to Nanking and Canton in connection with the same subject. The special committee was formed several weeks ago to solicit views and opinions of local merchants engaged in various trades with a view to urging the Nanking Government for a general revision of the trade control restrictions.

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Import Restrictions of British Board of Trade for Hong Kong Products.

The Board of Trade, London, has decided to curtail certain imports of Hongkong manufactured goods into the U.K. and has notified the local Government in this respect requesting that manufacturers be duly informed. It will only be possible to ship from here to

the U.K. during 1948, Knitted Goods to a total value of £10,000, Toys to a value of £5,000, Mats £3,000, and Basketware £800. These four locally manufactured goods have come under import restriction of the Board of Trade. The local Dept. of Supplies, Trade & Industry has consulted with some of the manufacturers, and the General and the Chinese Chambers of Commerce with a view to suggesting an amendment of the U.K. import reduction of knitted goods, toys, mats and basketware. An increase in the very low quotas for the four affected commodities may be agreed by London. Local manufacturers in the four lines are anxious to secure orders from U.K. which may be impossible if these import restrictions cannot be revised.

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Effects of Civil War and Inflation on Production in China.

Agricultural, mining and factory production in China during the post-war years has been seriously affected by the unbridled monetary inflation and the destructions wrought by a progressively expanding civil war.

According to the Farmers' Bank of China, the production of tea, wood oil and eggs last year recorded a sharp drop. Last year's production of tea was only 66,000 tons, representing a decline of 82 percent as compared with the annual average for 1933-37. Tung oil dropped from 120,000 tons in the pre-war years to 60,000 tons last year.

The production of raw cotton last year was far below the pre-war level.

		Production of raw cotton in Occupied China
Year		
1936	457,000 tons
1941	202,000 "
1942	300,000 "
1945	129,000 "

In Free China, there were 130,000 tons in 1945. In 1947, the production throughout the country was expected to reach 65 percent of the pre-war level.

Mining production also reported a drastic decline, particularly the mines in Manchuria and the North. Coal output was 41,000,000 cubic tons in 1936. The 1946 output was only 45 percent of the 1936 level, viz.:

Taiwan	1,000,000,	China Proper	13,000,000,
Manchuria	4,200,000	cubic tons	

The output of coal for the first six months of 1947 was estimated at 7,600,000 cubic tons. The estimate for the whole year showed a decline by 18 percent as compared with 1946.

		Coal output
1947		
January	1,090,000 cubic tons
March	1,360,000 " "
May	1,360,000 " "
June	1,160,000 " "

The sharp drop in coal production in Manchuria was due to the civil war.

In pre-war years, China Proper produced 1,840,000 tons of iron ores. In 1946, only 15,000 tons were produced. Manchuria used to produce on an average of 1,520,000 tons of iron ores before the outbreak of the Sino-Japanese War. In 1946 there was none.

Wolfram, antimony and tin are produced in China Proper and are monopolized by the National Resources Com-

mission. In 1936, were produced 9,800 tons of wolfram, 14,000 tons of antimony and 13,000 tons of tin. In 1946, the production of wolfram was reported to be only 22 percent of the pre-war output. Antimony was only three percent of the pre-war level, and tin was only 15 percent.

The production of electric power in all China by the end of June, 1947, was said to be only 48 percent of the pre-war level, with only 1,290,000 kilowatts.

TRADING IN MINERALS & ORES.

"China Exports" and Korean Supplies

Registration of "China Exports"

The Hongkong Import & Export Department's China Exports Section closed on January 9 the registration of stocks of so-called China export commodities. Registration of such stocks commenced on Jan. 4 following a Government announcement on the previous day stating that a licence to export these commodities will only be granted, in respect of commodities produced in China, provided that a Certificate of Origin issued by the Chinese Authorities is submitted at the time of application for the Export licence, and furthermore that stocks of these commodities now in Hongkong for which no Certificate of Origin is obtainable, must be registered before Jan. 8.

The total stocks of these "China exports" registered with and examined by officers of I. & E. Dept. after the expiration of the registration on Jan. 9 are:—Tea 35,345 piculs; Bristles 3,697 piculs; Cotton Yarn 12,300 piculs; Rape-seed Oil 82,852 piculs; Wood Oil 79,624 piculs; Antimony 1,597 piculs; Tin 14,329 piculs; and Wolfram ore 27,619 piculs.

It is generally believed that the quantity of cotton yarn stocks in Hongkong is much higher as many merchants were uninterested or even unwilling to register their holdings which, in any case, are prohibited to export from here. Moreover, most yarn is used in the manufacture of cotton piece goods here.

The total quantities of wood oil and rapeseed oil as registered by merchants (brokers, banks, speculators) are about the actual amount of stocks in the Colony (as per traders' estimates).

Large Wolfram Stocks.

However, the amount of tin and wolfram recorded at the official registration seems to be in excess of the actual stocks held in Hongkong. It is quite likely that some merchants may have employed tricks of the "Potemkin village" variety and over-registered their possessions to provide for future import smuggling of these two metals from China.

The registered amount of tin stocks here would represent as much as one-third of the total tin imports into Hongkong in 1947. The registered stocks of wolfram ore are more than the recorded total quantity imported into the Colony in 1947. Tin imports for 1947 totalled 43,124 piculs and wolfram imports in 1947 aggregated 26,724 piculs.

Many merchants were and are still unaware of the fact that registration of wolfram ore includes also Ferro Tungsten and Sheelite, both of which contain WO₃. The total amount of wolfram stocks registered with I. & E. Dept. also includes Korean produce which is exceeding 300 tons.

Commodity Hoarding.

Native dealers in the Nam Pak Hong state that a number of local native banks are owners of Chinese produce. They obtained the title to these commodities following the failure of some clients to repay loans which were secured on China produce. However, no native banks openly registered produce stocks with I. & E. Dept., preferring it being done through Nam Pak Hong dealers. Native banks have embarked, as a sideline of business, on commodity hoarding when the prospects for higher prices appeared good (e.g. recently with rubber, tin, cassia).

Among the Chinese minerals falling under "China Exports" antimony and wolfram are monopoly controlled in China by the National Resources Commission and export of these minerals can only be handled by N.R.C. Exporters of tin must surrender their foreign exchange proceeds to the Chinese Government through an appointed bank.

Trading in Ores & Metals

Since the introduction of the new regulations requiring Certificate of Origin to cover selected Chinese export commodities for re-export from the Colony, the local trade in antimony, tin and wolfram has come to a practical standstill. Merchants face more obstacles to bring these minerals here from South China. Further importation of wolfram and antimony is precarious but importation of tin from Canton is still possible.

Tin trading in the last two weeks has been rather dull and only small quantities of this metal were transacted on the local market. Current tin price here is \$550 per picul and in Canton it is \$480. After surrendering a certain percentage of export bills to the Chinese Government, plus freight cost, a picul of tin now costs nearly \$540. Tin merchants are dissatisfied with the \$10 profit per picul and, as a result, little tin has been shipped here lately.

Range of Locally Transacted Minerals & Ores.

Following 11 kinds of minerals and ores are traded on the local market:—Fluorite; Ferro Tungsten; Ferro Manganese; Ferro Molybdenum; Fluor Spar; Wolframite; Sheelite; Molybdenum; Beryl Ore (Beryllium); Chromite; and Bismuth.

Fluorite:—Local price is about \$100 per ton. There is very little fluorite coming into Hongkong from China, because freight between here and Chinese ports remains too expensive. Korean fluorite has been shipped into the Colony in considerable quantities lately, but business with abroad is small and dull, requiring some time for development.

Ferro Tungsten:—About 200 tons were exported abroad from here in 1947. Local price is \$5,500 per ton. Much of tungsten has been lately shipped here from Korea, whose quality is better than Chinese produce. Hongkong, most regrettably, lacks first-rate laboratory to conduct necessary analyses to find out the actual metal content of this ore, ranging from 75 to 80% W content. Both New York and London will not accept a certificate of a local analysis and each consignment sold to these two places must therefore submit first samples for an analysis by New York or London laboratories. Business with abroad could be much improved if the Colony should be supplied with a suitable laboratory to analyse the correct metal contents of this and several other marketable ores.

Ferro Manganese:—Local price is \$400 per ton. Only small business has been transacted with abroad.

Ferro Molybdenum:—This ore ranges from 58 to 62% MOS₂ content and is priced locally at \$2,500 per ton.

Fluor Spar:—About same price as Ferro Molybdenum. There is much enquiry and potentially a good foreign market. Supplies are small.

Wolframite:—An average of 500 tons was exported every year from here to foreign countries. It is of 65% WO₃ average content. Main source of supply remains China, but substantial quantities were and are available from South Korea. Many Korean and other merchants have brought this ore here, which is of better quality than Chinese ore. Local price is \$400 per picul. It is in wolfram that the biggest volume

of ores is transacted on the local market. A large percentage of the Colony's wolfram imports was absorbed by U.S.S.R. through their purchasing agents here; but since over 6 months Soviet buying has ceased in the local market.

Sheelite:—Generally known as white wolfram, also of WO_3 content. Its price is considerably cheaper than wolframite, costing \$370 per picul. An average of 300 tons was exported from here every year. Chinese and Korean sheelite are regularly supplied.

Molybdenum:—MO content of 58-61% assaying about 90-95%. Around 150 tons were exported in 1947. Current price here is \$2,300 per ton.

Beryl Ore:—Minimum 10-12% BEO content, it is priced at US\$16 per unit (a unit equals the percentage of metal). A small quantity arrived here from Korea during the last months of 1947. There was no business yet with abroad. Korean merchants who brought 17 tons of this ore into Hongkong were misled to suppose that it was containing Uranium and demanded fantastic prices. Several pounds of beryl samples were sent to London and New York towards the end of last year and analytical examination from both cities showed that the ore does not contain Uranium, and is pure beryl ore. The Korean merchants are, however, still dissatisfied with London and New York analyses and refuse to sell. The ore is now stored in a godown at West Point. Perhaps, here is one reason for the rumour that Uranium was found in China and has been shipped to Hongkong in transit for the Soviet Union.

Chromite:—FEO content. Minimum 49% with not more than 3% iron. Local

price is \$80 per ton. It is a big exportable cargo from China usually passing through Hongkong. It is not controlled by the Chinese Government.

Bismuth:—There is a big demand in New York, but very little supply came from China. Price is US\$1 per unit.

Outlook.

The prospects for a firm market in minerals and ores, of China and Korean origin, are encouraging for traders. War industries abroad are in full operation and their requirements for so-called strategic ores (especially the steel-hardening wolfram ore and other tungsten containing ores, beryllium, molybdenum etc.) are brisk. The question of adequate supplies arouses here most concern. Production in China is low and the outlook for an improvement there is certainly not a promising one. However, the locally held stocks in tin, antimony and wolfram ore may carry the trade for many months during this year. There is, of course, a danger of hoarding in such commodities the price of which appears to be strong and shows signs for further appreciation. Hoarders may be people alien to the trade; the large amounts of idle funds brought into the Colony have stimulated commodity speculation in addition to playing in so many other counters.

Korean mineral imports appear to expand as a consequence of our increasing trade with that U.S.-controlled country. The larger our export shipments to Southern Korea the more minerals (and other Korean produce) will be available on the local market. There are some sources of supply of tin from Indochina, Siam, Malaya but they are irregular.

iron in crucibles, which are then heated and the contents fused by being placed in reverberatory furnaces or in circular wind furnaces, the resultant product, consisting of impure antimony and iron sulphide, being afterwards mixed with sulphate of soda and some slag, then remelted with pearl ash and slag, and finally run into moulds, covered with a layer of slag, and allowed to cool slowly. In another process, much used in Hunan, the ore is first broken into small pieces or ground moderately fine, mixed with charcoal, and then heated with admission of air, thus converting the antimony sulphide into antimony oxide, the volatile antimony oxide being afterwards drawn off and condensed in special chambers. After having been mixed with suitable fluxes, the antimony oxide is melted in reverberatory furnaces, the molten metal being afterwards run into moulds, and then cooled slowly beneath a covering of slag, thereby producing the characteristic fern-like markings which appear on the surface of the finished product after the covering of slag has been removed. In another method of separating antimony from the ore (a method very extensively used in Hunan) there are two distinct stages. The first, known as liquation, separates the sulphide from the gangue. The broken ore or dust is placed in covered pots with perforated bottoms, below which are receivers, usually sunk into the ground; the space between the pots and the receivers is occupied by a fire, the heat from which fuses the sulphide and causes it to percolate through the holes into the receivers, from which it is ladled into moulds. The product thus obtained is a concentrated antimony sulphide, commonly called crude antimony; the residue left from the liquation process is known as ash. The liquation process is sometimes carried on in a reverberatory furnace, the liquated sulphide being finally drawn off through a hole into a receiver outside the furnace.

The second stage of the process consists of refining the crude antimony. This is done by mixing the crude metal with suitable fluxes and repeatedly remelting it until a pure product is obtained; the refined metal is then run into moulds, covered with slag, and allowed to cool slowly. Formerly, the ash obtained during the liquation process in China was discarded as waste, but the Chinese now find it profitable to submit this material to a further roasting and smelting in order to extract the metal, of which it contains about 30 per cent.

Ores which are very rich in antimony do not require the process of liquation.

Antimony in Chinese Commerce.

- (a) The ore (stibnite, or antimony sulphide) containing from 40 to 65 per cent. of antimony;
- (b) Crude antimony, or concentrated antimony sulphide, the product of liquation, containing about 70 per cent. of antimony;
- (c) Antimony ash the residue left after liquation, containing about 30 per cent. of antimony; and
- (d) Antimony regulus the purest qualities being sometimes known as refined antimony, usually containing up to about 99.5 per cent. of pure antimony.

ANTIMONY IN CHINA

China is the world's largest producer of antimony, smaller quantities being mined in many European countries, the U.S., Bolivia, Borneo, Japan etc. In our issue of Nov. 26, page 616, the reserves and production of antimony in China were described by Mr. James A. Rabbitt in his "Survey of China's Mineral Resources." The antimony metal is obtained in various parts of the country, but the bulk of the Chinese output comes from Hunan province, where the valuable Shui Kou Shan mines have been operated from the time of the Ming dynasty; besides there are the Hsi Keng Shan mines and the Pan Hsi mines. The crude ore is sometimes shipped to Europe for treatment, but most of it is reduced in China, where several up-to-date works for the production of crude and refined antimony have been established in various parts of the country, particularly at Changsha and at Hankow.

Antimony occurs native to a slight extent; it is also obtained from the oxide and from ores of lead, or gold which carry antimony. The chief source of antimony, however, is the ore known as stibnite,

antimonite, or antimony glance and this is the ore which occurs in such abundance in China. Stibnite is a bluish grey, brittle, crystalline compound, with a metallic lustre, a grey streak, a specific gravity of 4.6, and a hardness of 2. It dissolves in hydrochloric acids, and is often found with lead, zinc, iron, or silver ores, and associated with a gangue of quartz or heavy spar: some of the sulphides of antimony contain gold. The antimony ore which occurs in Hunan is very pure and is remarkably free from lead, copper, arsenic, zinc, etc., the better qualities of ore containing up to about 65 per cent. of the metal, inferior grades containing about 40 per cent. It is found in seams, pockets, and masses, associated with limestone, quartz, or interlaminated schist and quartz; the ore is roughly sorted underground, and cleaned and properly graded after having been brought to the surface.

Extraction of Antimony.

There are various methods of extracting antimony from the ore. One of these is to place a charge of about 40 parts of antimony sulphide and 20 parts of scrap

Refined antimony, or regulus, is a bluish white, crystalline, fairly soft, but extremely brittle substance, which can be readily pulverised, and which is usually covered on the surface with fernlike markings, somewhat resembling the marks made by a file; hence the name star antimony which it sometimes receives. It has a specific gravity of 6.72, a tensile strength of 0.47 ton per square inch, and a tin-white streak, and weighs about 4919.5 pounds per cubic foot and about 0.242 pound per cubic inch. It melts at 430°C., volatilising at higher temperatures, and burning with a brilliant, white flame when heated to redness, giving off dense white fumes of antimony trioxide. Antimony does not oxidise at ordinary temperatures, but oxidises rapidly on being melted and exposed to the air. Antimony has the important property of expanding on cooling from fusion, and thus makes a very sharp casting. It is a poor conductor of electricity.

Antimony often appears in commerce in an impure state, the impurities usually consisting of iron, lead, arsenic, sulphur, and potassium. Chinese antimony (regulus) is, however, one of the purest and best in the market. The markings on the surface of ingots of antimony are said by the Chinese to denote the purity of the metal, but they do not form a reliable guide.

Values of Antimony.

Antimony is valuable, chiefly on account of its properties of forming alloys with tin, lead, zinc, and other metals, to which it imparts hardness and frequently toughness. The property of expanding at the moment of solidification from fusion makes antimony particularly useful for adding to

lead for the manufacture of type-metal and stereo-metal. It is frequently added to tin and lead in making pewter, and is much used in the composition of britannia metal, antifriction metal, various alloys used in chemical works, etc.; it is also extensively used in making cartridges, shells, and other munitions of war. (The natives of parts of India use antimony ore as an application to the edge of the eyelids, considering that it improves the personal appearance, cools the eye, and counteracts the injurious effects of the excessive glare of the sun; they also use it as a tonic for horses).

The salts of antimony are of great value in medicine and as mordants in dyeing, etc. Tartar emetic is sold as a white, granular, odourless powder, or as colourless, transparent, efflorescent, octahedral crystals. It is used in medicine as an emetic, alterative, and expectorant; it is also used in dyeing. Antimony chromate is used for colouring purposes. Antimony persulphide is used in vulcanising and colouring india-rubber. Antimony oxysulphide forms the brilliant red pigment known as antimony cinnabar, antimony vermilion, or antimony red. Antimony sulphide is used in making black-lead pencils. Antimony trichloride is used in bronzing gun barrels, in colouring zinc black, as a mordant for patent leather, and in colouring silver. Antimony trioxide is used as a substitute for white lead, white zinc, etc., as a pigment, as a glaze for enamelled ironware, as a reducing agent in chemical work, and in detecting alkaloids and phenols. Antimony trisulphide is used in pyrotechny for making bengal lights or bengal fire, also as a pigment and for vulcanising india-rubber.

and very understandably so, to get a better price for their produce. The situation in this respect was reviewed in our issue of October 15, page 481, when we referred to political pressure being applied by U.S. tung oil interests. The Chinese Govt. has, of course, through Central Trust and C.V.O.C. tried to sell as much oil as was available for export in their desire to obtain U.S.\$; and in this effort they found most unwelcome support from private traders who also shipped more or less stealthily whatever they could to the U.S. in order to benefit from the high open funds rate of U.S.\$ as Chinese importers of U.S. commodities and investors and Chinese flight capitalists eagerly purchased any offered U.S.\$.

The effect of this concerted "tung oil export drive" was similar to dumping: the New York market went down and the price for tung oil could not recover. The American growers' and mills' interests were hard hit and started a determined press and political campaign.

Investigation by U.S. Customs.

After many months of preparation finally the American growers and their financial backers scored a major success when the U.S. Customs announced a few days ago that they were to investigate into the methods and the background of the selling of China wood oil in America. The crux of the matter is whether it can be proved that China wood oil has been really dumped, i.e. sold in the U.S. under cost price.

It is a fact that many exporters here and in China could have shipped their oil to the U.S. only because of the difference in the two U.S.\$ rates (official or controlled, and open funds or black market); if not for the large difference in the two rates, most tung oil exports to the U.S. would have been unprofitable. The interpretation of these abnormal trading methods is up to the U.S. Customs who might, in case of concurring with the U.S. agricultural interests about the dumping of China wood oil, introduce the levy of a duty on this oil (so far imported duty-free).

The process of the current investigation will be a slow one as all business done for the larger part of past year is to be screened. Since there was even an intimation of the U.S. Customs requiring importers of tung oil to post bonds for newly arriving shipments and the welter of often contradictory reports has injected too large an element of insecurity, most of American tung oil buyers prefer to stay put and refrain from both selling in the domestic market and contracting abroad.

Position of U.S. Growers.

The American tung nut growers may, at least temporarily, succeed in obtaining a better price, probably 30 cents (against 26½ to 27 cents last week for oil in tankcars, 28 to 28½ cents

PROSPECTS FOR TRADING IN TUNG OIL.

Exports of tung (China wood) oil from here during last year (see our last issue, page 89) aggregated about 32,400 tons at an average price of less than HK\$ 3,000 per ton. The Chinese Customs returns for 1947 will not be ready for another 6 weeks or even longer but meanwhile trade estimates in Shanghai give the total exports of tung oil as 73,000 tons, i.e. about 40,000 tons direct exports in addition to the re-exports from Hongkong of 32,400 tons. Accordingly, some 54 to 55% of tung oil exports were shipped abroad via Shanghai while the balance was sent to Hongkong. Traders estimate that the U.S. purchased some 48,000 tons or 66% of total China wood oil exports. The U.K. ranked second with 11% with other European countries making up for most of the balance.

Registered stocks at January 9 amounted to 79,624 piculs but trade circles here estimate the stocks slightly higher, at about 5,000 tons (100 piculs equal 6.04789 tons). On the average tung oil exports amount to about 45,000 piculs per month, 60 to 70% of which are shipped to the U.S.

Charge of Dumping in the U.S.

During the past week a serious obstacle to the continued tung oil exports to the U.S. emerged which caused considerable alarm in trading circles. The U.S. Customs Dept. have started an investigation into the charge of Chinese dumping of tung oil in the American market and there is a campaign on against the duty free importation of China wood oil which could lead eventually to a reduction in the tung oil business as far as the U.S., the principal customer, is concerned.

Hongkong reacted with great caution at first waiting for the clarification of the situation in the U.S. but meanwhile American importers ceased to place new orders as they were not taking any chances in case an import duty on China tung oil should be enforced in the U.S.

The whole agitation against China wood oil and the charge of dumping in America by the Chinese Govt. has been of old standing. The American tung oil growers and mills are anxious,

in drums). The position for these enterprising people is of course steadily worsening and demands an adjustment. Much capital has been invested in the growing of tung trees in the U.S. (mostly Gulf zone) and with scientific application a new industry was created over the short span of 5 or 6 years. Actually, the advance in the domestic tung oil industry of America dates only from 1941; while in 1939 the tung nut output was only 1,160 tons the crop last year yielded 664,000 tons; and the production of tung oil reached last year more than 15 million pounds compared with estimated total imports of China wood oil for 1947 of 106 million pounds. (However, U.S. sources claim that dumping of China wood oil was in excess of 140 million lbs.).

The success of the U.S. tung nut growers must be recognised and a higher price for the expressed oil should be agreed on. All prices in the U.S. have advanced, cost of living is certainly 60 to 70% higher today than before the war; tung nuts per ton cost pre-war U.S.\$ 42 but today the price is over \$100. However, tung oil—a valuable though not indispensable raw material for the paint, varnish, oilcloth, etc. manufacturers—sells today at about the same price as in 1940 although during the war years a fixed price of 38½ cents was ruled by Washington. The whole trouble starts with decontrolling of fixed prices (Sept. 1946) when most goods ascended the price ladder but tung oil almost collapsed dropping last summer to 21/22 cents, later recovering slightly to 25 cents when Washington ruled an unofficial support-price for domestic tung oil at 25 cents.

TRADING IN RAPESEED OIL.

Much demand for rapeseed oil continues from European customers especially France where the government remains an active buyer. The shortage in edible oils, somewhat alleviated by the excellent olive oil crops in southern European countries, is still acute in various European sectors. China teaseed oil has had a good market even in olive oil consuming Italy and Spain but since deliveries from here are not reliable and the quality has often given rise to complaint, furthermore supplies from China are too insecure, foreign buyers have turned more attention to rapeseed oil which was and continues to be available in adequate volume. As it is shipped abroad the oil requires a thorough process of refining until it is really edible.

Exports of rapeseed oil are virtually under embargo by the Chinese Govt. who, however, have agreed to ship abroad a stipulated quantity in accordance with the requests made by the International Emergency Food Council (I.E.F.C.). There has been considerable export smuggling and otherwise Customs unrecorded transportation of rapeseed oil which was one of the most conspicuous articles figuring in the trade of the Colony during the last six months of 1947. The export embargo on edible oils enforced by the Nanking Govt. aroused much opposition and resentment on the part of merchants and growers, and shipments abroad were effected with the connivance and even active support of certain official organisations in China.

The rapeseed oil export requirement by I.E.F.C. as far as China is concerned was fixed at 3,000 tons for 1947.

So far the allocated export quantity has not yet been officially filled and there is still a large backlog.

Since the cooperative measures taken by Hongkong with respect to rapeseed oil (classifying them as "China Export" and allowing export from here only if the foreign exchange proceeds for the oil have been sold to Central Bank of China) there has been a significant change in the situation: Chinese exporters in Canton have made certain arrangements with Central Bank of China and the Export-Import Board (South China office) concerning the surrender only of part of their export bills thus agreeing to a reduction in their profits against the official permission to send their cargo to Hongkong for re-export elsewhere. The Hongkong-China economic cooperation, as is illustrated in this just as well as in the tung oil case, results in an increase in the exchange earnings of Central Bank of China and a simultaneous reduction in the profits made by the legitimate traders.

The export allocation of edible oils which China has been requested to fill in 1948 amounts, according to the I.E.F.C., to 60,000 tons, but this figure appears rather big.

Hongkong has been exporting rapeseed oil during recent months at an average of 2,000 to 2,500 tons per month while other edible oil exports were insignificant with the exception of teaseed oil during the earlier months of 1947 (for the whole year teaseed oil exports from here amounted to over 8,200 tons).

THE USES OF RAMIE

REVIVAL OF TRADE IN THE STRONGEST TEXTILE FIBER

(By E. K. MAO)*

Ramie or Rhea, the stingless nettle of several varieties of the genus 'Boehmeria' has been cultivated in China for four thousand years. It was so common that it was called China Grass. The plant grows all year round. It takes three years for the first harvestable crop, but after that the only cultivation problem is to cut the stalks three times a year during June, September and December. The stalks shoot up fast, attaining a height from five to six feet in two or three months depending on the climate. About once every twelve years, the fields have to be replanted again.

The ramie fiber is used for making shirts, suits and hosiery. Besides making clothing, the uses of ramie have long been recognized by textile experts in other countries. It is the best known material for towels and bandages because of its absorbing properties and the fact that it is lintless. Braided fibers are wrapped around propeller shafts and other shipping machinery to seal out water. Heavy textiles such as draperies, upholstery and seat covers are virtually permanent when made of ramie. It is the principal yarn from which gas-mantle fibers are knitted and woven. For making cigarette paper it is without peer. Other uses are, for making of mats, sails, ropes and cords, fish-nets, tapestry, tablecloths, damasks, etc. The leaves are used in China as a medicine. They also have a higher feed value than alfalfa, and the pulp from the stalks makes untearable paper.

Ramie is the strongest of textile fibers so far known. A fiber no thicker than an ordinary pin cannot be broken by hand when ripped from the natural stalk. Its tensile strength is equal to that of mild steel. It is three times stronger than hemp; seven times stronger than wood; and eight times stronger than cotton or silk. The length of individual staple is 14 to 18 inches, and one pound of fiber could be extended to a distance of 50,400 yards. The degummed fiber has a higher sheen than silk, freedom from shrinkage and resistance to mildew and rot.

The chemical composition from the decorticated fiber contains 10.15% water, 0.59% fat and wax, 66% cellulose and 12.7% pectin bodies. It yields 5.63% ash and a water extract of 10.34%. While the degummed products, which is obtained by digestion of the last fiber in water, is practically pure cellulose, identical in composition with bleached cotton and linen. It is dyed easily to fast colour.

The wonder plant is produced practically in every province of China except the northeastern provinces. It thrives best on soil rich enough and wet enough to support its growth. Annual production is estimated at 105,000 tons and the Yangtze Valley provinces raise 50% of the crop according to following statistics:

Province	Area in Cultivation (1,000 Mows)	Annual Production (1,000 Piculs)
Hunan	847	860
Hupei	221	181
Kiangsi	111	133
Anhui	63	127
Szechuen	54	31
Kwangtung	150	120
Kwangsi	77	14
Fukien	50	92
Chekiang	54	39
Kweichow	12	47
Yunnan	7	8
Kiangsu	11	15
Shantung	6	23
Honan	27	22
Hopeh	16	16
Shansi	56	19
Shensi	19	15
Sinkiang	18	18
	1,799	1,780

Price of Ramie varies according to length of assortment and locality of production. Recent price in Canton market quotes HK\$85 for Yuan-kiang White; HK\$115 for Yung-ting Broad; HK\$135 for Kwangsi Green; and HK\$165 for Pei-shi-to Green.

Weight of packing varies according to practice of different localities. Generally no outside wrapping material is used and the bale is so bulky that it occupies considerable shipping space.

Before the Sino-Japanese war, Ramie was one of the main commodities for export. During the years 1917-1936, about 30,000 tons were imported by Japan, Belgium, France and Great Britain. Only a small quantity was shipped to U.S.A. However during the past two years, America made considerable progress in the cultivation of this wonder plant. Already many millions of U.S. dollars have been invest-

ed by the United States Sugar Corporation, the Florida Ramie Products, Inc. and Sea Island Mills in Florida. They intend to turn that State into the Ramie center of the world.

The sudden appearance of ramie on the American market was due to the discovery of a satisfactory decorating machine when the Americans invaded a Japanese-held island in the Pacific; this machine was as important to Ramie as the cotton gin was to cotton. Following its general pattern, engineers of the Sea Island Mills of Florida perfected the crude one and have now all patent right. The first garments made of ramie have been put out by them on the market. They have engaged in no extensive advertising until the new machinery in their mills are installed to manufacture on a mass production scale.

The United States Sugar Corporation was the first to invest in ramie cultivation to any considerable extent. Florida Ramie Products Inc. recently bought 5,000 acres in Florida with plans to spend US\$1,500,000 in the next three years on the magic fiber. One of the officials of the company says, "What we have now invested is only a drop in the bucket to what we really intend to spend".

Despite the recent development in U.S.A., where the mills will soon turn to mass-production scale, the supply of ramie there can never meet the urgent demand as the mills were swamped by department stores in every large city for exclusive distributorship. This is the opportune time for exporters to revive the once flourishing trade.

AGAR-AGAR

Agar-Agar, the term being the Malay name for various species of marine algae which grow on the rocky shores of the Malayan and many other islands of the South Seas, is sometimes known in commerce as Bengal isinglass, Japanese isinglass, Ceylon moss, or China moss. It is exported mostly from New Guinea, Malacca, Macassar and the Celebes, most of that imported into China coming from Singapore, packed in gunny bags. Agar-agar appears in commerce in the form of a thin, translucent, gelatinous substance, tough when damp, and possessing a light brown colour, an irregular spongelike appearance, a cartilagenous consistency, a slight odour, and a saline mucilaginous taste; it yields about 54.5 per cent. of vegetable jelly, or gelatine, 15 per cent. of starch, 18 per cent. of cellulose, 4 per cent. of gum, and 7.5 per cent. of inorganic salts.

Agar-agar is used by the Chinese as a vegetable or in soup, forming a very light and easily digestible food, particularly for invalids; it is also used by

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the Chinese, to a certain extent, as a vegetable glue, to size paper and silk, and as a paste which is not liable to be eaten by insects. It is much used, both by Chinese and Europeans, as a substitute for isinglass in making jellies, etc., and, on account of its nutritive, emollient, demulcent, and alterative properties, in medicine, especially in treating pulmonary complaints, chronic constipation, diarrhoea, and other diseases of the stomach. Paper saturated with the jelly obtained by boiling agar-agar is semi-transparent and is used by the Chinese to cover the bamboo framework of lanterns.

Agar-Agar quotes in New York US\$3.95 to 4.65 per pound, f.o.b. New York.

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CLAY IN HONGKONG AND CHINA

The clay mined in the New Territories of Hongkong has been largely shipped last year by Govt. Dept. of Supplies, Trade & Industry to Japan where it has been used by Japanese factories; in return for these shipments Hongkong was able to increase its purchases from S.C.A.P. and Japanese Board of Trade. There are two large brickworks and a few smaller ones in the Colony who have been using locally mined clay. The local output of bricks, tiles, etc. is readily taken up by the building trade which is always short of construction materials.

Clays are found in almost all parts of the world. They consist of natural complicated mixtures of hydrated silicates of alumina, usually containing a proportion of mineral impurities and coloured by metallic oxides or organic matters, and are roughly divided into two main classes—"primary", or "residual", clays and "secondary", or "transported", clays. Primary clays are those clays which are found as deposits in the place where they were originally formed; secondary clays, which are more plastic than primary clays, are those which have been naturally removed by the agency of water from their original position and deposited in some other place.

The physical properties of clay consist of plasticity, tensile strength, air and fire shrinkage, fusibility, and specific gravity varying from about 1.7 to 2.3. The composition varies considerably, and it is only by actual experience that the peculiar properties of any particular clay can be ascertained. Silica in clay lowers the plasticity and shrinkage and helps to increase the refractoriness; alumina is refractory; iron oxide colours the burned clay from buff to red and acts as a flux; excess of lime causes the burned clay to be light coloured; carbon colours the clay grey or black.

Brick Clay:—Clay suitable for making ordinary bricks, tiles, etc., may be either primary or secondary. It is of a fairly fine texture, and the colour varies according to the proportion of foreign matter present. Brick clay consists of a varying proportion of silicate of alumina with sand, iron, lime, alkalies, etc.

China Clay, or Kaolin:—It is also called porcelain clay and Cornish clay, being a primary clay derived from the natural decomposition of pure feldspar. It usually occurs in veins running beneath a bed of stone, sand, or impure clay, and is obtained either by simply digging it out of the ground or by causing a stream of water to flow through the bed of kaolin into a special pit in which the clay is deposited and from which it is recovered, then washed and purified, finally being cut into blocks and dried. As a rule, it appears on the Chinese market only after having been purified, and is then in the form of powder, blocks, cakes, or irregular lumps. When pure, kaolin consists of a fine white powdery mass, perfectly smooth and soft to the touch, and possessing a soapy feel, a specific gravity of 2.2, and a hardness of 1. When mixed with water, kaolin becomes plastic and can then be moulded into any required shape. It is almost infusible, and, on the application of heat, burns white, and readily hardens into a stone-like mass. The average composition of kaolin is about 47 per cent. of silica, 39 per cent. of alumina, and 14 per cent. of water.

Kaolin is used chiefly in the manufacture of chinaware and porcelain, and for sizing paper, piece goods, etc.; also in medicine, in the treatment of dysentery. In former times it was obtained only from China and Japan, but it is now found in many other parts of the world.

Fireclay:—Fireclay, so called because of its great fire-resisting properties, is obtained as a natural product and is also prepared artificially. Natural fireclays are hydrated silicates of alumina and are always found near coal. The composition of fireclay varies, but clay of fair quality usually contains about 60 to 66 per cent. of silica, 25 to 31 per cent. of alumina, and from 2 to 6 per cent. of oxide of iron. Fireclay is sold in the form of a heavy grey powder somewhat resembling cement, but usually not quite as fine and smooth as that product. It feels grittier than cement when rubbed between the fingers, and frequently contains small fragments intermixed. Fireclay is used for making firebricks and many other articles which have to withstand intense heat, such as furnaces, fire gates, ovens, retorts, flues, smelting pots, crucibles, etc.

Pipeclay:—Pipeclay is a variety of fine white plastic clay, the composition of which resembles that of kaolin, except that pipeclay contains a large proportion of silica. Ordinary pipeclay

contains about 54 per cent. of silica, 32 per cent. of alumina, 12 per cent. of water, and traces of oxide of iron, lime and magnesia.

* * *

LOCAL PRODUCE MARKETS.

Enquiry for cassia oil kept the price firm at \$1,250 to 1,280; supplies are small and reports from the producing districts do not encourage hopes for an increase in deliveries. Tung oil quoted ex dealers' godown \$138/140. No business was done in teaseed oil. Rapeseed oil sales were reported at \$127/129; tendency is weak. Sesame oil \$250, Peanut oil \$182/85 had a few dealings. Malayan and Siamese coconut oil continued very firm and demand is large; \$131 to 137 were paid by local exporters when buying in the native market. Some business was done in Korean and China wolfram, for 65¢ about \$370 per picul was paid. No sales of antimony (crude or regulus) were reported. Yunnan tin was in good demand, appreciating from \$440 to 480. (All prices per picul).

DEVELOPMENT IN PLASTICS

The peace-time use of plastics, developed during the war years, has just begun. The great variety of plastic materials for almost any use as substitutes for natural products, and as entirely novel products is steadily improved and expanded. Following are reviewed a few of the more popular plastics and their uses.

Vinyls.

Vinyls are transparent plastics used as substitutes for rubber and leather during the war and for packaging, and have since become familiar in the form of ladies' shoes and handbags. They were also used for the protection of military and naval equipment. Vinyl plastics in solution are sometimes called "strip lacquers" because the film left after application can be stripped off an object without damage to the surface beneath by simply cutting with a knife, hence the name "magic film". The value of this film during the war was proved by its use on aeroplanes, which after treatment were stored on the decks of oil tankers, and transferred to battle theatres in all parts of the world. Automobiles and any other equipment likely to suffer from the corrosive effects of seawater or salt spray can be protected in this way.

Melamine.

Melamine is bound to revolutionise the paper industry for it imparts strength to paper when wet. This property enabled the production of military maps which would withstand the roughest usage, i.e. they were resistant to repeated washing and wringing in soapy water, continued folding. Paper parachutes treated with Melamine were often used in place of silk or rayon for the transport of military equipment. This new plastic is noted for imparting shrink resistant properties to textiles, and is one of the

few chemicals that can do this without impairing the textile in any shape or form. The weight of the textile is increased, such increase varying from 10 to 12 percent. Melamine should be of great value to the wool industry. Buttons made from Melamine are superior to all others.

Polythene.

Polythene is a wax-like plastic, one of the greatest discoveries in plastics to date. Its general inertness and ease of working makes it one of the most versatile of modern plastics. It has no superior for the insulation of high frequency and submarine cables. It is also used for waterproofing paper and is ideal for plumbing fixtures, such as U-bends and swan-necks. Its properties of flexibility, toughness and chemical inertness make it ideal for many industrial purposes. Its use in cold water pipes eliminates T-pieces and bends, for the material is readily shaped with a blow lamp. It is particularly suited for beakers and similar domestic ware for it differs from a number of commercial plastics which are inclined to be brittle.

Perspex.

Perspex was used during the war years in place of glass in all combat aircraft. It has since been fabricated into countless domestic articles and fancy goods which are obtainable from most stores today. Acrylic dentures and eyes are also well known. Its application to new types of furniture and architectural decoration is fairly general. The production of useful domestic and toilet articles from opal Perspex, both white and coloured, is a new development, as well as its fabrication into kitchen sinks and draining boards, which are cheaper than those of stainless steel. A more recent development of this plastic is in optical work, such as view finders, camera lenses, opera glasses and ocular objectives.

Future developments in television will be closely associated with this plastic. A drawback to the present domestic television receiver is the comparatively small picture which is shown on the curved end of the cathode ray tube. Attempts are now being made to project an enlarged image of the picture on to a separate viewing screen, and this necessitates the use of concave mirrors varying from 8 in. to 14 in. in diameter. These mirrors are now being made of this plastic, and as they can be mass produced the cost will be considerably lower than if produced in glass.

Holoplast.

A new idea in building construction using a common plastic material is a British patent called Holoplast. The raw materials are Kraft paper and a water soluble synthetic resin. Holoplast was used in the reconstruction of the Queen Mary and the Queen Elizabeth, ocean liners, where it was made in boards and sheets for panelling and veneered with wood for furniture. It combines light weight with high mechanical strength. Its widespread

use in the United Kingdom, especially for shipbuilding is on account of its fire-resistant properties and the novel method of forming the boards for structural purposes.

Synthetic Rubber.

The British Commonwealth of Nations is returning to the use of natural rubber, and little attention is therefore paid to the synthetic rubbers. However, new developments and processes are proceeding apace in the U.S. The development of butyl rubber for inner tubes during the war was a great success.

Advantages which butyl rubber tubes have over the natural rubber tubes are: first, they hold air eight to ten times better. This superior air retention, which means less frequent pumping up of tyres, increases the tread life of the tyre 10 to 18 percent. Butyl rubber tubes are better in service and, consequently, they give better puncture or blowout resistance, which in turn provides a greater degree of safety for the motorist.

Surface Coatings.

There has been a revolutionary development in the application of plastics to surface coatings. By means of an ingenious contrivance called a Schori pistol it is practicable to project a finely powdered plastic through a flame at such a speed that it does not suffer chance and adheres to any surface with which it comes into contact. By using appropriate plastics like Polythene a surface of any desired thickness can be built up, and one that will have remarkable resistance to water, solvents, acids, alkalis, coupled with good temperature resistance and stability. The increasing demands for paints and varnishes has stimulated interest in new techniques which provide a tough and flexible surface coating, which will withstand atmospheric influences for prolonged periods.

DEVELOPMENTS IN SYNTHETIC FIBRES

All planning for the future by textile producers must include calculations about the increasing popularity, usefulness and technological advance of synthetic fibres. It is likely that the production and use of ever more appealing and superior rayons will affect in the not too distant future the structure of every country's wool and cotton manufacturing industry. Processes are perfected from day to day, research institutes and enthusiastic experimenters are turning out ever more inventions; the public has come to appreciate synthetic fibres and prefers them for novelty's if not for utility's sake. The current worldwide textile shortage obscures the real importance of the progress already achieved by the latest developments in rayons.

Following are reviewed two recent developments in this field:

Seaweed Rayon.

An outstanding development was the use of seaweed rayon as a means

of utilising coarse grades of wool. There are many very lightweight textiles made from wool by means of this new rayon. There are some beautiful gossamer and georgette fabrics which weigh only two to three ounces to the square yard. Seaweed rayon is used as a support or carrier for the wool, and is removed after scouring. In this way an all wool fabric of the lightest practicable weight is produced. This development, although not widely used commercially, has unlimited possibilities for wool. Its extended application would probably dispense altogether with breeds of sheep producing the finest wools described technically as 90 to 100 counts.

A new range of textiles called Sea silks has just been developed from Seaweed Rayon. They are heavier than those just described, but do not char when soaked in petrol and ignited. These new seaweed yarns are used in the manufacture of draperies and furnishing fabrics, where non-inflammability is essential.

Ardil.

A remarkable technical development of the war period was the production by a well-known British organisation of the wool-like fibre from peanut protein called Ardil. Textiles of this new fibre in admixture with 50 per cent. of wool are indistinguishable from all wool articles. Moreover, suitings made from such textiles wear remarkably well. There are many technical difficulties involved in converting a vegetable protein into a textile on the commercial scale. Those responsible for Ardil one of the outstanding technical developments of our time tend to minimise the merits of their achievement. The impact of this discovery upon the food and clothing situation of the world is immense. Much publicity has been given to the British Government's project for planting 34 million acres of almost waterless, uninhabited land in East Africa for the purpose of augmenting that country's requirements in oils and fats. At first sight it appears to bear no relation to the subject of Ardil for the sponsors have indicated that the East African Ground Nut Scheme is intended for the production of oil for edible purposes, and that the protein residue would be used for cattle. The possibility of using the protein for fibres is something that should not be overlooked.

This gigantic East African undertaking is one of the most stirring post-war efforts to use science for the betterment of native races. It will probably prove to be one of the greatest undertakings of modern times. The estimated capital cost spread over the first six years is estimated at 25½ million pounds sterling, and it means the clearing and bringing under cultivation of an area of approximately 5,000 square miles. The most highly mechanised forms of land clearing and agriculture will be used. It is expected that a minimum of 600,000 tons of peanuts will be produced annually.

TRADE WITH KOREA

The following directive with reference to Import and Export licences was issued in Korea and has been published by the Headquarters of the South Korean interim Government.

1. The exporter or importer or his accredited agent shall complete the *Application for Export Licence* or *Application for Import Licence* form provided by the Bureau of Foreign Commerce.

2. The Bureau will determine that all the terms of the Foreign Commerce Regulations have been complied with.

3. The Bureau will determine that the exporter has rightful title to the goods or commodities to be exported prior to the issuance of licence.

4. The exporter or importer of drugs or medicines shall furnish the Bureau with a written clearance from Department of Public Health and Welfare.

5. When goods or commodities are imported into South Korea and sold for yen, the importer will furnish the Bureau of Foreign Commerce a written undertaking to the effect that the proceeds of sale of these imports will be used only to purchase goods or commodities for export to be exported within a reasonable time after purchase of exports has been completed. The Bureau, at its discretion, may require a Bank guarantee or other surety for the fulfilment of this undertaking.

6. A licence for the export of goods or commodities to be sold for foreign exchange will be issued provided that:

a. A letter of credit covering the full value of said goods or commodities to be exported has been opened by the buyer's bank abroad and the Korean Foreign Exchange Bank, Ltd. has received an advice to this effect. Said letter of credit shall contain the clause *Negotiable only through the Korean Foreign Exchange Bank, Ltd.*, or

b. The buyer's credit standing has been approved by the Korean Foreign Exchange Bank Ltd. and the buyer has agreed to honour documentary bills of exchange drawn on him by the shipper. Said bills will be at sight and negotiable only through the Korean Foreign Exchange Bank, Ltd.

HONGKONG EXPORT REGULATIONS AT A GLANCE

Type	Commodities Involved	Form Required	Issuing Authority.
Prohibited Exports	<i>Butter, Flour, Rice, Sugar, Bottles—all kinds, whole or broken, empty or filled, Cotton Yarn of all kinds, Tin-plates, Baths, all kinds, water closets—all kinds, Galvanised Iron Pipes, Mild Steel Bars—all dimensions, Mild Steel Angles, Mild Steel Channels, Mild Steel Tees, Mild Steel Joists, Mild Steel Sheet and Mild Steel Plate, Mild Steel Window Sections, Tin Sials and Ingot, Cotton Threads of all descriptions, Peanut Cakes, in solid or powdered form, Basins, Toilet and all bathroom accessories, Peanut Oil, Sweetened Condensed Milk, Cement, Gold Bullion and Coin, Preserved Ginger (in casks), Toilet and Medicinal Soap, Gunny Bags, Lambskins (Karakuls), Rabbit Skins, and Margarine.</i>	Form 2 in triplicate.	Department of Supplies, Trade & Industry.
China Exports (Note 1)	<i>Bristles, Wood Oil, Cotton Yarn, Tea, Rapeseed Oil, Tin, Wolfram and Antimony.</i>	Form 2B (Yellow) duplicate.	I. & E. Dept.
Restricted Exports (Note 2)	<i>Wood (tung) Oil, Dessicated Coconut, Tin, Rubber, Pepper, Diamonds, Gunny Bags and Silver.</i>	Form 2A (Green) triplicate.	I. & E. Dept.
General Exports	<i>All commodities — (other than those listed above)—to non-Sterling Areas.</i>	Form 2B (Yellow).	I. & E. Dept.
Exports to Sterling Area and China.	<i>All commodities — (other than China Exports and Prohibited Exports).</i>	No Special Licence required.	—
Japan and Korea Exports	<i>(Special arrangement with Dept. Supplies, Trade & Industry).</i>	—	Dept. S. T. & I.

NOTES:

(1) CHINA EXPORTS include these Commodities whether originating in China or not. Applications must be supported by evidence of origin, e.g. a Chinese Certificate of Origin in cases where articles are produced in China; otherwise such evidence as I. & E. Dept. shall require.

(2) Where commodities overlap two groups—e.g. Wood Oil and Tin, use Form 2A (green) in triplicate.

AVIATION REPORTS

CIVIL AIR SERVICES OF HONGKONG

At the beginning of 1948 there were in operation here 20 scheduled air services and 7 unscheduled air services. The scheduled air services are: one to the United Kingdom; 2 to Singapore; 2 to Calcutta; one to Saigon; one to San Francisco; and 13 to China, e.g. 3 to Shanghai, 3 to Canton, 2 each to Chungking and Formosa (Taiwan), and one each to Kunming, Nanking and Hainan Island.

The unscheduled air services are: 4 to Manila and 3 to Bangkok.

Scheduled Air Services.

Route	Destination	Operating Company	Route Mileage (statute miles)	Type of air craft	Weekly frequency
United Kingdom		B.O.A.C.	8,263	Plymouth Flying boats and Near East)	2
Singapore		B.O.A.C.	1,965	Plymouth Flying boats	2
		(one direct; one via Bangkok)			
		Cathay Pacific Airways (via Bangkok)	1,965	D.C. 3	2
Calcutta		C.N.A.C.	2,096	D.C. 4	1
		(via Kunming)			
		Pan-American World Airways (via Bangkok)	2,096	D.C. 4	1
Saigon		Air France	829	D.C. 3	1
San Francisco		P.A.W.A.			
		(via Manila)	8,500	D.C. 4	2
		(via Shanghai)	9,000	D.C. 4	1
CHINA:					
Shanghai		Hongkong Airways	803	D.C. 3	3
		C.A.T.C.	803	D.C. 3	6
		C.N.A.C.	803	D.C. 3 & 4	6
		(direct, and via Canton, Swatow, Amoy, Foochow)			
Canton		Hongkong Airways			
		C.A.T.C. & C.N.A.C.	82	D.C. 3	frequent
Chungking		C.N.A.C.	680	D.C. 3	1
		C.A.T.C.			1
		(via Canton and Kweilin)			
Kunming		C.A.T.C.	800	D.C. 3	2
		(via Canton and Kweilin)			
Nanking		C.N.A.C.	1,075	D.C. 3	2
		(via Kweilin and Hankow)			
Hainan Is.		C.N.A.C.	305	D.C. 3	1
Taiwan		C.A.T.C.	360	D.C. 3	2
		C.N.A.C.	360	C. 46	2

Unscheduled Air Services.

The following aviation companies maintain together about 12 weekly services from here to Manila:—Cathay Pacific Airways with D.C. 3 machines; Philippine Air Lines with D.C. 4 machines; Trans Asiatic Airlines and Commercial Airlines each with D.C. 3 planes. The route is 690 statute miles.

The following aviation companies maintain together about six weekly services from here to Bangkok:—Pacific Overseas Airways (Siam); Trans Asiatic Airlines (Siam); and Cathay Pacific Airways. Only D.C. 3 machines are used. The route is 1,078 statute miles.

Service to Japan.

Hongkong will be shortly connected with Japan by a scheduled service which B.O.A.C. are to operate. This service will be the extension of the British air corporation's trunk route to Japan.

Other Air Services.

Braathen's South American & Far East Airtransport are frequently operating a service connecting Hongkong with Europe (U.K., Holland, Norway). Air France issue through tickets for their planes which take off from Saigon for North Africa, European capitals, North and South America.

Cathay Pacific Airways operate at intervals a service to Australia; the air transport firm is active as operator of chartered flights (Macao, Saigon, Far Eastern capitals).

Connection With Macao.

Hongkong Airways are planning for the extension of a daily service from here to Macao. Another projected Hongkong-Macao air service is to be operated by the Macao Air Transport Company which is at present making repairs on the old Pan-American ramp on the east side of Macao upon completion of which a regular service may start in the first half of February with Catalina flying-boats. These will be operated by Cathay Pacific Airways. The Macao Air Transport Company may later take over the service.

Service will commence with one flight daily to and from Hongkong and will be increased if the traffic warrants it. CPA have two Catalinas in operation which currently are employed in the transportation of gold and are also chartered out to private companies.

B.O.A.C. Services in the Far East—Operation of Malayan Airways.

In the widespread fostering of local airlines throughout the world there has been a marked development in recent months in BOAC's association with countries in the Far East.

Hongkong Airways were formed in 1947 to operate local services, including those between Hongkong and Canton and Shanghai. This company is owned by BOAC, who have seconded staff and air crews to it, but leading members of the local commercial community have joined the Board and one of their number, Mr. D. F. Landale, Chairman of Messrs. Jardine, Matheson Ltd., has been appointed Chairman of the Board.

In Singapore Messrs. Mansfield & Co., managers of the Straits Steamship Co.'s fleet of coasters and agents for the Blue Funnel Line and other shipping companies, have formed Malayan Airways to operate local services in Malaya, to the Netherlands East Indies and to other nearby countries, including Hongkong.

The Chairman of the new enterprise is Mr. H. J. C. K. Toms, a Director of Messrs. Mansfield & Co. and Chairman of the Straits Steamship Co. BOAC have been invited to participate in the capital of the company and will be represented on the Board. In addition BOAC have seconded a technical manager to the new airline as well as other technical staff.

Thus, at two great British seaports in the Far East, shipping interests are found participating in aviation. And so the new air companies enjoy the great

advantage of the commercial experience of businessmen long resident in the Far East coupled with the technical knowledge and operating experience of BOAC.

The Boards of these two new companies are already working closely together to ensure the maximum degree of collaboration at the present time.

* * * *

HONGKONG AERODROME

The following commercial aviation companies are registered with Hong-kong Govt. (Directorate of Air Services):—

British Overseas Airways Corporation, (British);—Hong Kong Airways Ltd. (British);—Cathay Pacific Airways Ltd. (British);—Far East Aviation Co. Ltd. (British);—Far East Flying Training School Ltd. (British);—Skyways (Far East) Ltd. (British).

Pan American World Airways (American);—Air France (French);—China National Aviation Corporation (Chinese);—Central Air Transport Corporation (Chinese);—Trans-Asiatic Airlines Inc. (Philippine);—Commercial Airlines Inc. (Philippine);—Philippine Air Lines Inc. (Philippine);—Pacific Overseas Airways (Siam) Ltd. (Siamese);—Braathens SAFE Airtransport A/S (Norwegian).

Unscheduled and charter flights are undertaken by the following companies:

Cathay Pacific Airways Ltd.; Skyways (Far East) Ltd.; Philippine Air Lines Inc.; Commercial Air Lines Inc.; Trans-Asiatic Airlines Inc.; Braathens SAFE Airtransport A/S; Pacific Overseas Airlines (Siam) Ltd.

Repairs and maintenance can be arranged with commercial companies including Far East Flying Training School Ltd., Cathay Pacific Airways Ltd. and Jardine Aircraft Maintenance Co. Ltd. Limited stocks of spares are maintained by the above firms. Compass base is available. Aircraft weigh-bridge up to 35 Tons.

There is one steel and concrete hangar available (121' x 84' door 121' x 19'6") which is normally used only for land-planes maintenance but is available for light aircraft in typhoon conditions.

Two moorings are provided for land-planes, but owners of aircraft are normally expected to supply own mooring facilities.

Landing fees are assessed on the maximum allup weight of the aircraft as authorised by its Certificate of Airworthiness. Charges range from \$4 for an aircraft of 1200 lbs. to \$128 for aircraft of 65,000 lbs. Housing fees are assessed by the area of space occupied and range from \$3 for aircraft not exceeding 300 sq. feet to \$72 for aircraft of 10,000 sq. feet for each 24 hours. Half these fees will be charged for aircraft accommodated in the open.

THE REVOLUTION IN MODERN FLYING

British Gas Turbines

Within the next two decades the gas turbine engine will be the most important prime-mover on land, sea and in the air. The British National Gas Turbine Establishment, at Whetstone, a huge factory, is the nucleus for the development of gas turbines. It is a unique establishment which the British Government has set up. Large teams of scientists and engineers and a fantastically expensive test apparatus are now operating together to bring to us the age of jets and gas turbines.

The basic patents for the building of gas turbine engines were held by Mr. Frank Whittle and progress started when he organised in 1937 the Power Jets Ltd. with the backing of the British Government. The research work carried out by him and teams of scientists at the village of Whetstone near Lutterworth, Leicestershire, came to fruition only after the end of war when, in 1942, the first jet engines successfully ran in the single seat E/28 Gloster marking the first ever jet propelled flight. The whole future of world aviation was altered by that event.

Dawn of the Jet Age.

The dominating application of the gas turbine in aviation is now common knowledge. Every new fighter and bomber, and every projected big airliner is looking to jet propulsion in one form or another for its power. Only the slow weight-lifting freighters, the feeder-line aircraft and light personal aircraft are remaining faithful to the piston engine—and future developments may put even these machines into the jet category before many years have gone.

But jets are not going to be content with merely dominating aviation. Whetstone is today working on plans for gas turbines for electrical generating plants, locomotives, and ships—and indeed for almost every purpose for which the world now uses either steam turbines or piston engines. Two British gas turbine railway engines are already being built; jet boats have already made their appearance, and the Swiss have installed gas turbine generating gear. Even the day of the jet motor-car is not ruled out by engineers who maintain that in the past they have tackled and overcome bigger problems than that.

The gas turbine as applied to industry and to land and sea travel will not be a jet engine like that in the Meteor and Vampire fighters. It will not eject high-powered and exceedingly high temperature gases in a searing blast. It will, in fact, have no more inconvenient an exhaust than that of an ordinary heavy oil or petrol motor. In the industrial gas turbine, that red-hot rush of compressed air which comes from the combustion chambers will be harnessed to drive extra turbines and shafting—almost as it is harnessed today to drive a propeller in the jet prop type of aero engine. In short, the non-aviation gas turbines will be real turbines, and will not

be "jets." It would, in fact, be wrong even to call them jets, since they will have no jet at all, but merely a quiet, normal exhaust. In high speed aviation the "jet" arrangement is the best because it provides sheer thrust in the simplest possible manner. Air is compressed up to a ratio of 4 to 1 or even higher, and then flung through combustion chambers which are kept up to a heat of around 1,000 degrees Centigrade. This journey through hell expands the air and increases its velocity, after which it is allowed to escape through the jet pipe at enormous speed. As the hot air presses back—the aircraft in which the jet engine is mounted is naturally pressed forward, and the old basic law that action and reaction are equal and opposite is duly honoured.

In fact there is only a turbine at all in an aero-motor so that some means is provided of driving that air compressor which has started the whole business off. This turbine is installed just before the jet pipe so that the escaping air drives it round on its way out.

For industrial and all non-aviation purposes, this arrangement is obviously no good. It would be impossible to have red hot air streams playing around in the factory, on the railways, or in the harbours. The answer, therefore, is to encase the air flow, and make it drive turbines and machinery until all its energy is exhausted.

Whetstone is now at work on plans to fit these "encased" engines to every form of industrial activity.

Future of Gas Turbines.

The gas turbine is much more efficient than steam or petrol—and costs much less to install. Furthermore a gas turbine can be started up at the touch of a button, while a big steam plant needs three hours of "stoking up" before the wheels begin to turn. Already a gas turbine generating plant of 15,000 kilowatts has been designed and its usefulness as a standby at a peak load electricity times is obvious. It can be put on or off in a minute, with no waste of fuel.

The big snag with the present units is the fuel consumption—but the Whetstone scientists are certain they will reduce this high running cost until it is less than that of coal for modern steam plants. Already gas turbine have run well on crude oils, and eventually they will be designed to burn powdered coal.

The gas turbine age is no pipe dream. It is likely to be with us quite soon. After all—in 1937 there was no such thing as a working jet engine—but in 1947 no important aircraft is being planned to use anything else.

DEVELOPMENTS IN BRITISH AVIATION

Successful first flights have been made with the first small power "prop jet" which was made in Britain. It is the *Rolls-Royce Dart*, which is rated at 1,000 horse-power. Intended for use in military trainers, it would also be an ideal engine for middle-sized aircraft of the privately owned type. It has less mechanical clatter than an ordinary piston engine, is lighter for its power, and a good deal smaller.

In addition to its prototypes of two Cirrus engines of 180 h.p. and 300 h.p., the *Blackburn aircraft* factory has now added an engine of 250 h.p. The development of these prototypes gives the factory a range of five engines in the 100 h.p. and 300 h.p. class.

The new *Tudor IV* has begun its weekly service between Britain and the Caribbean region—via Lisbon, the Azores, Bermuda and Nassau to Cuba. The aircraft leaves London every Thursday morning, staying the night at the Azores and then going on to Havana. With the advent of this service, *British South American Airways* have a thrice-weekly service between Europe and the Caribbean area.

A freighter version of the well-known *Vickers Viking* has been produced for the transport of pay-loads up to 9,500 lbs. with a range of 1,275 statute miles.

The *Concordia*, a new British 14-seater feeder line aircraft, is on its export demonstration tour in Europe.

The first of three *Vickers Viking Air-liners* ordered by Iraq has left for Bagdad. Iraqi Airways have also received the first of three *de Havilland Dove* air-liners. Norwegian Air Lines have ordered a further *Sundringham* four-engined flying-boat from Short Bros. It will be delivered in the spring.

British aircraft manufacturers are adapting part of their aircraft so that they may be suitable for operating in Canada. The *de Havilland Dove*, for example, has been fitted with floats and so has the *Perceval Proctor*. Ski under-carriages are needed for operating in some parts of Canada and usually they can be substituted for floats without other large modification.

British European Airways have introduced in January helicopter air mail service in collaboration with the General Post Office. For the time being dummy mails are being collected and delivered to a fixed schedule. Pilots call at landing fields selected by the General Post Office, keeping within a minute of scheduled times for collection and delivery.

To investigate mysterious compass deviations experienced on the Empire air routes, the *Arias II* which recently made a record flight to Australia and New Zealand, has been fitted with a new type of electric compass which does not depend on a magnet for direction but incorporates an electronic control.

INDUSTRIAL REVIEW

BUSINESS SITUATION OF HONGKONG

KNITTING & WEAVING MILLS.

Supply of Yarn.

The Colony's estimated 750 textile factories have been adequately supplied in the past year with cotton yarn procured by the government (Department of Supply, Trade & Industry) chiefly from China and Japan in addition to occasional small quantities imported from the United Kingdom and Italy. After being assured of regular supplies, the Dept. of S.T. & I. started controlling cotton yarn at the beginning of 1947 when it set the maximum price at \$1,600 per bale, which was revised to \$1,500 on June 1, and again to \$1,400 on Oct. 1. The maximum sales price set at \$1,400 on Oct. 1, 1947, has been kept up and is still in force today.

The policy of the Dept. S.T. & I. in procuring cotton yarn from the Chinese Govt. owned Chinese Textile Corp. and Japan for use of the local textile industry has been most encouraging and was generally warmly appreciated. Without this measure, cotton yarn prices would have fluctuated and the industry would have faced continuous shortages in yarn supply.

The price of Japanese yarn is cheaper than the price paid for the Chinese product. Under an agreement with the China Textile Corporation—the Chinese Government organ owning and controlling the cotton mills taken over from the Japanese after the war—it was to supply 9,000 bales of cotton yarn of chiefly 20's yarn from September to November. Although it is now nearly two months after the expiration of the term, the Chinese company has still not fully delivered its contracted 9,000 bales to Hongkong. However, seeing in advance the difficulties in obtaining Chinese cotton yarn on time to feed the 10,000 odd power-driven and hand operated looms of the Colony's textile factories, the Dept. of S.T. & I. made prompt new arrangements and obtained additional cotton yarn from Japan, the United Kingdom and Italy.

The payment for the Chinese cotton yarn has been made in London on sterling basis. Hongkong Govt. has to pay in U.S.\$ in New York for the Japanese yarn as U.S. raw cotton is used by the Japanese spinners.

Under the constant watch and care of the Dept. of S.T. & I. all local cotton weaving and knitting factories, underwear makers, towel and hosiery workshops as well as factories engaged in making labels, tapes and tapes in-fit have never been in any real difficulties concerning the supply of raw materials for their production throughout the last year.

The entire requirements of the Colony's textile industry under the present working conditions has been 5,000-6,000 bales of yarn every month. All registered factories were able to obtain a greater portion, if not the entire amount of their cotton yarn requirements from the Dept. of S.T. & I. at the official price of \$1,400 per bale (since Oct. 1).

Cotton Spinning Mills.

It is expected that by the middle of this year when three of the four planned cotton spinning mills will have commenced operation, the supply of cotton yarn for local weaving and knitting factories will be further improved. Employing a total of 48,000 spindles, these three cotton spinning mills are expected to produce monthly some 2,500 bales of 20's cotton yarn, which amount is sufficient to meet half of the present local requirement.

One of the three mills could have started operation by last October, but due to labour trouble caused by its recruited semi skilled female workers from Canton it had to postpone the commencement to this January. The mill has recruited skilled labourers from Shanghai and tested its installed machinery, including 5,000 spindles, for actual operation. The mill has produced several bales of sample cotton yarn which proved to be of similar quality with those imported from Japan.

Prosperous Business.

The local cotton cloth weaving industry enjoyed a much more prosperous trade in 1947 than any other sister factories in the textile industry here. Towards the latter part of last year, cotton cloth factories were unable to cope with the demand coming from Malaya, the Philippines and East & West Africa.

Small and occasional orders for cotton cloth had even come from Palestine last year. With the political situation in the Netherlands East Indies improved considerably since the beginning of this year, local cotton cloth manufacturers are looking forward to really big business in Indonesian markets.

As their hands were full of orders from other places, local cotton cloth manufacturers showed only little interest last November in the large offers made by East & North African merchants who desired to order 60 million yards of cloth (1½ million pieces) at \$0.70 per yard from Hongkong fac-

tories. After prolonged negotiations in which African merchants made, however, no concession in price while local manufacturers insisted on their quotations, the big deal was eventually deadlocked at the end of last year.

At the middle of January practically every cotton cloth weaving factory had contracts from Malayan and Philippine merchants for dress materials, totalling 35,000 pieces, or 1,400,000 yards, amounting to \$2,800,000 in value at \$2 per yard. As each power-driven loom can produce 50 yards daily, the whole order can be completed in one month by three factories employing each 90 looms.

The principal products of local cotton weaving factories are grays, suitings and sarongs. As the Colony as yet has no cloth printing workshops, Shanghai-made printed cloth finds no competition from local factories. The production of grays (unbleached) is not the favourite of local manufacturers whose prices are usually 25 percent higher than the Shanghai materials. Locally made grays cost \$1.50 per yard, whereas Shanghai manufactured grays sell at \$1.20 per yard. Local factories concentrate their production on suitings and sarongs, the price for suitings being between \$1.80 and \$2 per yard.

XENON GAS FOR ELECTRIC LAMPS

The fresh air we breathe is now to be used as a raw material in making electric lamps! Hitherto unexploited for this purpose, xenon, the heaviest of the inert gases, is reclaimed from the atmosphere, where it exists in only six parts in 10 million. Nevertheless, it is a commercial proposition to extract it, and in the research laboratories of the Siemens Lamp Works, Preston, England, a five kilowatt gas arc-lamp, containing xenon, is now undergoing practical tests.

It is too early yet to be able to predict the future of this type of lamp, but one thing has emerged from the tests—the light it gives is almost indistinguishable from daylight.

If the tests are a complete success, and the lamp goes into commercial production, it may possibly supplant the carbon arc-lamp for such purposes as illumination in film and television studios. Other uses will become apparent as the lamp is developed. Apart from the daylight nature of the illumination, other advantages of the lamp are that it gives off little heat, does not need constant attention like the carbon arc-lamp (whose electrodes have to be trimmed and frequently changed), and its output is good in proportion to its size (a 10 kilowatt lamp being a tube only 20 centimetres long and 2 centimetres diameter).

DEVELOPMENT OF THE JAPANESE ELECTRIC POWER INDUSTRY

I. Introduction

Water power is one of the few resources with which Japan is amply supplied. Water power reserves at the end of 1946 amounted to 16.2 million kw. at a maximum flow (5.87 million kw. at normal flow). Of the 3,113 localities of hydro-power, 1,447 with 6.29 million kw. or 39% at maximum flow (2.79 million kw. or 47% at normal flow) are now being developed. As regards the geographical distribution of water power reserves, more than 80% is concentrated in Honshu especially the central parts which are rather near the principal industrial centres such as the Keihin district (Tokyo and Yokohama), Chukyo district (Nagoya) and Hanshin district (Osaka and Kobe). An unfavourable factor is that the rainfall is concentrated in the summer months, the winter season being comparatively dry; consequently the water available for hydro-electric power generation is subjected to sharp seasonal fluctuations. Moreover, the period of greatest demand for electric power does not coincide with the heaviest precipitation. Steam-generated power is, therefore, necessary to supplement water power during the dry season. In the pre-war period when the coal supply was sufficient, steam-generated power could easily meet the deficit of hydro-power. However, critical conditions appeared in the dry season after the termination of war due to a shortage of coal, with serious effects on production and transportation.

Electric power generated before 1937 totalled about 22 million kw. h. (average for 1934–36). Hydro-electric power accounting for 82% of the total. Hydro-power generation showed a gradual advance, whilst thermal power generation almost doubled during the three years after. Later, the upward tendency in thermal power generation was checked and the expansion of hydro-power generation stimulated.

In view of the rather small war damage and the marked decline in electric power consumption due to the termination of war, a surplus of electric power was temporarily anticipated. However, the shortage in coal and other fuel has caused a heavy increase in the demand for electric power from factories and for household heating. Severe restriction of electric power consumption was, therefore, successively enforced. The unfavourable balance between supply and demand is expected to become worse. Nevertheless, it is undeniable that post war economic rehabilitation will be achieved through the development of electric power.

II. Power Situation During the War

In accordance with the expansion of heavy industries due to the necessity of increased production of armaments after 1941, the electric power industry

played an important role in the industrial reorganization. Electric power generation showed a successive increase until 1943, when the power output totalled 34,839 million kw. h. Some recession set in 1944, reflecting the war-time economy was not built up for the normal increase of the whole industrial production. This was clearly revealed by consumption and the development of power generation. As to consumption of electric power, nearly 70% of the total was used for military purposes and for the increase of productive capacity. The increase of power generation equipment was far smaller than that of power generated, the rate of increase in power generation being only 1.8% in 1943 and 0.9% in 1945.

Fiscal Year	Power Generation (in million kw. h.)		
	Hydro- electric power	Thermal electric power	Total
1937	21,859	5,320	27,179
1941	28,798	5,171	33,969
1944	29,000	4,100	33,100

III. Power Situation after the War

War damage to hydro-electric power plants was insignificant, but thermal power plants in urban areas suffered considerably through air raids. Damage to transmission and transformation equipment was very slight.

Power generation equipment at the end of 1945 totalled 5,939,000 kw. for hydro-electric power and 2,904,000 kw. for thermal power generation. In view of the small damage and a decline in the demand for electric power due to the termination of war a temporary surplus of electric power was anticipated. The daily average of power consumption during the last ten days of August, 1945 declined to almost one third of the highest peak of May, 1944 (99 millions kw. h. on the daily average).

The demand for electric power advanced gradually with the recovery in industrial production and for household use due to a shortage of coal and fuel. The daily average of electric power consumption recovered to 81,100,000 kw. h. in October, 1946, as against 30,900,000 kw. h. during the last ten days of August, 1945. A decrease in power output due to a lack of rain and a shortage of coal supply, resulted in the restriction of power consumption. Some recovery was witnessed this year, consumption of electric power in June being 96,700,000 kw. h. on the daily average, which was still lower than the highest peak. Research Association shows that the industry is setting about its task in the right way.

Coal allotments for electric power had to be restricted after the war, the volume being only one third of that required in the fiscal year 1946.

Coal Allotment for Electrical Power Industry
(in thousands of metric tons)
Volume Actual Ratio
required allotment

1946 Apr.-June	150	47	31.8
Oct.-Dec.	947	307	32.4
1947 Jan.-Mar.	1,241	407	32.9
Apr.-June	655	313	47.8

Nearly 80% of the total electric power was consumed in the mining and manufacturing industries, basic industries during the pre-war period and during the war electric light and heating participating only with 7.2% in 1944.

After the war, consumption for electric light and heating showed a marked advance owing to a shortage of fuel such as coal, gas and charcoal. The relative importance of electric light and heating advanced remarkably, the percentage to total consumption advancing to 36% in March, 1947.

As regards power consumption by industries, the position of metals and machinery declined, whilst the chemical and textile industries registered a marked advance. The increase of power consumption was most pronounced in the textile industries, reflecting their importance in the export trade.

In view of the future increase in electric power consumption and the present stage of power generation, the Government prepared a five years plan for the increase of hydro-electric power generation. The plan aims at an increase of capacity by 498,000 kw. during 5 years after 1946, reserving a fund of 8,712 million yen for its realization.

Electric Power Consumption
for the period April to June 1947.

<i>In millions of kilo watt hours.</i>			
Electric light & heating	1,749.2	28.0%	
Contracts less than 500 kw.			
Mining	1,279.3	20.5	
Metal industry	411.3	6.6	
Machinery	495.6	7.9	
Chemical industry	225.3	3.6	
Ceramics	1,392.0	22.3	
Textile industries	42.6	0.7	
Electric railways	168.3	2.7	
Public works	258.9	4.1	
Others	91.4	1.5	
	132.7	2.1	
Total	6,247.0	100.0	

ELECTRIC POWER PRODUCTION IN MANILA.

The year 1947 saw steady expansion of electric power production in Manila signifying all-round progress made in the Philippines. The pre-war monthly average of power production was 15.3 kilowatthours but December 1947 recorded 25.4 kwh. The lowest production in 1947 was in January (17½ million kwh) and the average amounted to 21 million kwh.

PROGRESS IN THE BUILDING INDUSTRY

The influence of the years of World War II were paramount in every branch of the building industry for manufacturers and suppliers have been acquiring fresh skill in the use of new products. During the last few years a considerable program of research and development into building problems of all kinds was started in all advanced countries. As there was practically no house building during the war the building industry was able to set out on its post-war building program with an appreciation of what goods were necessary and which of the semi-standardised lines could be abandoned.

The public has noted that the major development emphasises prefabrication in all its forms, from the comparatively simple plumbing unit to the complete house. Permanent prefabricated houses are produced in Britain and the U.S. on a large scale.

Owing to the fact that timber, steel and cast iron are in short supply, alternative materials have been used widely, often because they have been more easily obtainable and not because they have been more economic.

Alternative Building Materials.

Much has been undertaken in the standardisation of such commodities as light alloy roof trusses for varying spans. Materials like light alloys and plastics have individual advantages such as fire resistance, strength or light weight which may make the final product considerably better.

Among the older and better known materials there have been considerable developments; asbestos cement sheeting, for example, is seen in new shapes for roof decking and light partitions, and there are several composite sheet materials made up of insulating boards with a weather resistant facing material in sheet form. During the last few years there has been a tendency to develop wall linings in sheets which will cover large areas and which also incorporate the final wall finish.

Standardisation of Products.

Standardisation has effected great economies during the past few years. The number of bath types, for example, have been reduced from about 600 to fewer than a dozen and the same can be said generally regarding sanitary fittings. Dimensional standards for all

kitchen fittings and for much furniture have been settled finally and it is now possible to buy every kind of kitchen equipment, cooker, sink, cupboards, water heater and refrigerator from a different manufacturer knowing that all units will fit together at standard heights and spacings. The kitchen, too, can be planned as a unit instead of an open space filled with odds and ends.

Wood windows have been standardised both in the sections used, which are far lighter than they were in pre-war days, and in dimensions which are now arranged to work in with brick sizes. This simplifies the bricklayer's work.

There have been many similar developments inside the house. On each side of the chimney breast recesses have been standardised, a process which makes the building-in of furniture and cupboards much simpler.

In the interests of fuel saving, constructionally, stress has been placed on adequate heat insulation. The materials used for insulation are not new, but their wider use is a considerable departure from normal pre-war practice.

Electrical Developments.

Electrical equipment has undergone considerable improvement and a reduction in the number of different types of heaters and cookers has allowed production to attain pre-war achievement. Probably fluorescent lighting aroused the most interest, although at present it is not really suitable for the small house. In factories and commercial buildings where it is being used more frequently the large current saving off-sets installation costs. Wiring regulations have been brought up-to-date and a new range of standard plugs and sockets is now available for use with ring main wiring systems.

RAYON PRODUCTION & RESEARCH

The Chinese call rayon "man-made silk", so emphasising the essential distinction between natural and artificial silk. Rayon is a product of the laboratory, and hence of human research. In their laboratories scientists make use of artificial means, endeavouring to produce results identical in principle with those produced by the silkworm since ancient times without the slightest sign of difficulty: the spinning of a fine thread out of raw cellulose, which the little creature extracts from plants. Human beings find this less easy; they have to fell trees and put the wood through a long and complicated chemical process until the microscopic spinnerettes obtained finally yield an almost invisible thread.

TECHNICAL PROGRESS IN BRITISH SHIPBUILDING.

Shipbuilding, marine engineering, and ship repairing industries in Britain have always been progressively minded on all matters designed to advance the science of naval architecture from the days of the China Clippers to the giant Atlantic liners.

Today that progressive advancement is as much in evidence as it ever was in the United Kingdom. Perhaps the most interesting development in connection with British shipping, which arose out of the urgent demands of a world at war, is the formation of the British Shipbuilding Research Association. This provides the much needed con-

trol organisation for the harnessing and pooling of research, and makes every discovery available to the industry generally. In addition it stimulates to a very high degree the scientific interest in design.

The shipbuilding and allied industries are united in their support of the Research Association, the various committees of which handle all the varying aspects of construction and propulsive machinery, marine instruments, and everything which is remotely concerned in the building of the best ships in the world.

For example, on the hull side there are committees dealing with resistance and propulsion, materials, equipment, structure and performance. On the engine side other committees deal with the main propulsive machinery, auxiliary plant, materials and equipment, while joint committees handle the problems of performance at sea and vibrations.

Research by the British Shipbuilding Research Assn.

The main lines of research in shipbuilding carried out by the Association can be briefly summarised under the headings of hydrodynamics, ship structure, ships performance, and ships machinery. In all these sections many interesting developments will ultimately arise from the present research.

Investigations now being made on hull resistance, due to skin friction, wave making roughness and fouling may eventually mean an annual saving of tens of thousands of tons in fuel. Much experimental work is now being carried out in the five tanks available in Britain, two of which are owned by the British Government.

The work of structure has been greatly accelerated and its scope widened by the electrical resistance gauges, developed during World War II, which enables experts to measure much more quickly than has hitherto been possible. There is also a great deal of research generally on welding.

Pre-fabrication is being increasingly applied in the shipyards, mainly so far as bulkheads and deck sections are concerned. In fact Vickers Armstrong, one of the largest shipyards, is spending more than £2 million on modernisation to permit greater use of pre-fabrication.

During World War II the now well-known "Tid" tugs were entirely pre-fabricated in eight transverse units at outside firms, put together by means of circumferential welds in the yards, and launched at the rate of one every four-and-a-half days.

Rayon research on a collective basis has begun in Britain only since World War II. It is not that rayon research had previously been neglected in Britain; on the contrary, great progress had been made—but it was chiefly in the laboratories of a few individual firms. Other British textile industries had begun collective research already into the fields of woollen, cotton and linen fibre. It was not until November 1946, that the rayon industry set up its research centre, the *British Rayon Research Association*. Traditionally, of course, industrial pioneering in Britain always has sprung mainly from individualism, and this is no doubt why the rayon industry developed along individualistic lines between World Wars I and II. It co-ordinated itself, at last in 1943, and set up the *British Rayon Federation*, with headquarters in Manchester. This Federation organised immediately joint research, culminating in the foundation of the Research Association. This Association is now busy preparing the ground for collective research work.

Rayon Research Work

All users of rayon, especially women, will admit that there is scope for improvement in rayon products. Rayon research workers, themselves, do not by any means claim to have found a perfect substitute for natural silk, for they have not yet succeeded in coaxing the silk-worm to give up the secret of its "laboratory work"; although on the other hand, scientists are now able to produce rayon fibres, the properties of which surpass those of natural silk in many respects. The invention of *nylon* is the latest sensational example of the possibilities of rayon research.

At present the British rayon industry is making experiments with various new types of fibre, which one day may lead to the manufacture of fabrics of unprecedented beauty, softness, durability and warmth. Research workers are trying to find new materials to make fibres from—for example, by making *casein* fibre out of milk and *alginate* rayon out of algae. It is also their constant aim to improve established rayon production processes, such as *viscose*, *acetate* and *cuprammonium*, particularly by combining these products with each other and with natural fibre such as wool and cotton. The field of activity before rayon research thus appears to be very wide—indeed, almost limitless. The extension of markets is another objective. Formerly the clothing industry used to be the chief party interested in fibre research developments; but a growing market has been discovered in the furniture industry, and now rayon research has stimulated an interest in fibre development additionally on the part of other industries.

Another problem awaiting an ideal solution is that of constructing special looms to weave rayon yarn. The object is to emancipate rayon production from the machine processes used for natural silk; an object which British research successes have attained already to a large extent in the field of dyeing, where special dyestuffs and machines are now used for acetate silk. This development has spread also to fabric printing, where special dyes, machines and processes also have been introduced. However, British research workers are not resting on their laurels, but are constantly seeking further improvements in dyeing and printing processes.

British Rayon Production.

This progress has benefited the overseas market considerably since the end of World War II. The value of British rayon exports is now five times greater than before World War II: for the first seven months of 1947, it totalled £16,400,000, as against £3,200,000 for the corresponding period of 1938. British production of rayon yarns and staple fibres during July of this year amounted 18,200,000 pounds as against a monthly average of 14,510,000 pounds for 1939. The July figures also show that the rayon industry has made a healthy recovery from the reverse it suffered after Britain's coal crisis in February 1947, (production 12,800,000 pounds). It is noteworthy that this extension of British rayon production has been attained, in spite of the fact that 10,000 fewer workers are employed in it than before World War II. In mid-1939 the silk and rayon industries employed a total of 72,200 workers; the present figure is only 62,000. In other words, modernisation has raised the British rayon industry's productivity above its pre-war level. The major British rayon concerns have put forward ambitious modernisation plans: Courtaulds have reserved £40 million and Celanese £6 million for capital investment with this object. This emphasises to a remarkable degree the urgency and responsibility of rayon research work. The foundation of the British Rayon

When it was decided to produce for operational purposes a large number of 400 tons dead-weight tankers it was decided to follow the same method. Twin-screwed, shallow draft tugs, for use in the Burma campaign on the Irrawaddy, were also pre-fabricated.

All the experience of wartime construction is now being applied to the present ship programme in Britain, and it cannot be said that the industry itself is lacking in enterprise, although shortness of supplies of timber and steel has handicapped, to some extent, the target of tonnage completed by the end of the year. This will, however, reach the million mark.

Gas Turbines

Gas turbines for propulsion is another important research carried out in Britain by a joint united effort. An experimental station has been set up on the Tyne under the name of Parson's Marine Engineering Turbine Research and Development Association. Plant installation enables tests to be carried out with the aid of machinery of 60,000 horse-power.

There are also three vessels under investigation with turbo-electric machinery. The latest of these, "Auricula," has undergone trials over a measured mile and registered a speed of $17\frac{1}{2}$ knots. A feature is that the main boilers burn waste produce, cracked asphalt or bitumen. In "Auricula" special attention has been paid to the accommodation for the crew, every member of which including the galley boy has a cabin to himself.

Other Technical Developments

A stabiliser has been made to keep a ship steady in rough weather. With 100 horse-power engine the necessary equipment could be driven to keep the Queen Elizabeth steady in the roughest weather.

Among the marine instruments there is a Supersonic Flaw detector, to detect the most minute flaws in metal, and Echo Sounder, which shows on a continuously moving chart an outline of the sea bed over which the ship is passing. It will record a wreck or other irregularity to a depth of 720 fathoms, and also shoals of fish. There is also a Radio current metre for measuring speed and direction of currents in the sea, and the "Faithful Freddie" compass, so well known to those who served in the submarine and coastal forces during World War II.

Nylon ropes for marine wear have distinct advantages over the old type rope as they do not swell or go hard when wet, in addition to being twice as strong as manila rope of the highest grade. The Nylon ropes are by far the most revolutionary thing that has happened in cordage circles in hundreds of years.